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Schlußbericht

"Bereitstellung von numerisch-mathematischen Hilfsmitteln für die Forschungs-  
ziele des Massivbaus"

von

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## 1 Einleitung

### 1.1 Aufgabenstellung

Eine Institution mit vielseitigen Aufgaben auf dem Gebiete des Massivbaus, ist ständig mit Problemen konfrontiert, die den Einsatz zunehmend anspruchsvoller Rechenprogramme erfordern. Solche Hilfsmittel sind rechnerabhängig und setzen selbstverständlich eine leistungsfähige Rechanlage voraus. Da moderne Computer zunehmend anwenderfreundlich ausgelegt werden, erweitert sich der Kreis von Interessenten rasch.

Im allgemeinen ist der Anwender daran interessiert, ein möglichst umfassendes Mehrzweck-Programm zur Verfügung zu haben, das einerseits die üblichen Standardaufgaben ökonomisch löst und das andererseits auch zur Behandlung besonderer Probleme weiterentwickelt werden kann, ohne es umorganisieren zu müssen. In der jetzigen Phase der Programm- und Rechnerentwicklung ist allerdings die Erstellung solch eines Mehrzweck-Rechenprogramms ohne großen finanziellen Aufwand nicht möglich. Zweckmäßiger und kostengünstiger erscheint es daher, ausgereifte Programmsysteme mit vielseitigen Elementformulierungen und rechnerfreundlichen numerischen Verfahren zu erwerben und diese zur Lösung von praktischen anwendungsorientierten Problemstellungen aufzubereiten.

## 2 Programmsystem

Da sich in den letzten Jahren die Methode der finiten Elemente immer mehr als das entscheidende Hilfsmittel zur Lösung von Problemen des Massivbaus durchgesetzt hat, wurde ein für dieses Gebiet geeignetes Programmsystem gesucht. Anfangs war vorgesehen, das mit einem hohen Anteil von Bundesmitteln entwickelte finite Elementprogramm "SMART" der Universität Stuttgart heranzuziehen, das für eine geringe Schutzgebühr zu erwerben ist.

Inzwischen wurde von der Ruhr-Universität Bochum das Rechenprogramm "SAP IV" (structural analysis programm) ebenfalls für eine geringe Schutzgebühr ange-

boten. Beide Quell-Programme sind in FORTRAN geschrieben, allerdings in Versionen, die an der institutseigenen Rechananlage ohne entsprechende Umformulierung nicht eingesetzt werden können.

Nach einer Gegenüberstellung der beiden Programme im Hinblick auf ihre Eignung für den vorgesehenen Zweck wurde das Programm "SAP IV" gewählt.

## 2.1 Das Programmsystem SAP

Das Programmsystem SAP wurde an der University of California, Berkeley, seit 1970 von E. L. Wilson und K.-J. Bathe und Mitarbeitern entwickelt. Es ist darauf abgestellt, daß der Benutzer es modifiziert und erweitert; zusätzliche Algorithmen und neue Elemente können leicht eingefügt werden. Das Programm kann sehr große räumliche Systeme berechnen, die Lösung kleinerer Probleme ist jedoch mit keinem Verlust des Wirkungsgrades verbunden. Hinzu kommt, daß sich aus dem vollständigen Programm für besondere Zwecke kleinere Programme erstellen lassen, indem nur die zur Problemlösung benötigten Unterprogramme zusammengefügt werden. Diese Möglichkeit eröffnet dem Programm seine Anwendbarkeit auch für kleine Rechananlagen.

Die gegenwärtige Programmversion "SAP IV" für statische und dynamische Berechnungen linearer Tragwerkssysteme ist das Ergebnis einer mehrjährigen Forschungs- und Entwicklungserfahrung; das Programm hat sich als sehr flexibles und wirkungsvolles Werkzeug für die Tragwerksberechnung erwiesen.

Die zu untersuchenden Tragwerkssysteme können aus einer Anzahl verschiedener Tragwerkselemente zusammengesetzt sein. Gegenwärtig enthält das Programm die folgenden Elementtypen:

- (1 ) räumliches Fachwerkelement
- (2 ) räumliches Balkenelement
- (3 ) Element für den ebenen Spannungs-Verzerrungszustand einer Scheibe
- (4 ) Scheiben- und rotationssymmetrisches Element mit drei oder vier Knoten
- (5 ) räumliches Kontinuumelement mit acht Knoten

- (6 ) dünnes Platten- oder Schalenelement
- (7 ) Randelement
- (8 ) dickes Schalenelement oder räumliches Kontinuumelement mit variabler Knotenzahl (8 - 21 Knoten)
- (9 ) Scheiben- und rotationssymmetrisches Element mit variabler Knotenzahl (3 - 8 Knoten)
- (10) Rohrelement

Die Leistungsfähigkeit des Programms hängt hauptsächlich von der Gesamtzahl der Knotenpunkte des Systems, der Anzahl der benötigten Eigenwerte in der dynamischen Berechnung und der Art des Rechners ab. Es besteht praktisch keine Beschränkung in der Anzahl der verwendeten Elemente, der Anzahl der Lastfälle oder der Größe der Bandbreite der Steifigkeitsmatrix. Jeder Knotenpunkt im System kann von Null bis sechs Verschiebungsfreiheitsgrade haben. Die Elementsteifigkeits- und Massenmatrizen wurden in kondensierter Form in das Gleichungssystem eingefügt. Das Programm ist für ein-, zwei- oder dreidimensionale Systeme gleich effektiv.

## 2.2 Implementieren des Rechenprogramms "SAP IV" auf der Anlage PRIME 400

Zum Implementieren des Rechenprogramms stand eine CDC-Programmversion (CONTROL, DATA CORPORATION) zur Verfügung. Das das Programmpaket ca. 16 500 Zeilen groß ist, wurde der dynamische Teil des Rechenprogramms abgetrennt und nur der statische Teil implementiert, weil dynamische Probleme bei der Bearbeitung von Forschungsaufgaben an Massivbauinstituten in der Regel kaum vorkommen. Er umfaßt ein Haupt- und 90 Unterprogramme und besteht aus ca. 11 500 Zeilen.

Um das Rechenprogramm auf der hier verfügbaren PRIME lauffähig zu machen, mußten CDC-spezifische Fortran-Anweisungen und -Vereinbarungen geändert werden. Um einige Beispiele zu nennen: Es war nötig, alle Namen von Variablen und Subroutines die mehr als 6 Zeichen besitzen auf maximal 6 Zeichen zu reduzieren. Zwischen dem Formalparameter der SUBROUTINE-Vereinbarung und dem Aktualparameter der Call-Anweisung muß eine Übereinstimmung bezüglich des Typs bestehen. Da die CDC-Rechanlage solche Beschränkung nicht kennt, mußten diese korrigiert werden. Ähnliche Korrekturen wurden auch bei den COMMON-Variablen durchgeführt.

Wird eine Aufgabe mit dem Rechenprogramm "SAP IV" bearbeitet, werden "Felder" als Zwischenergebnisse erzeugt und auf einer Magnetplatte, mit einer bestimmten Kanal-Nummer versehen, gespeichert. Diese Felder werden dann bei Bedarf in beliebiger Reihenfolge record-weise zurückgeholt. Eine solche Bewegungsfreiheit der Pointer an der PRIME-Anlage ist dann möglich, wenn diese Felder mit Hilfe des PRIME-spezifischen Software-Programms "PRWF \$\$" in einem Arbeitsfile gespeichert werden.

### 3 Anwendung des Rechenprogramms "SAP IV"

Nach erfolgter Implementierung wurde der Statikteil des Rechenprogramms "SAP IV" anhand einiger praktischer Beispiele auf seine Lauffähigkeit überprüft. Nach dieser Testphase wurde das Programm zur allgemeinen Benutzung freigegeben und entsprechend angewendet: so werden z. Zt. im hiesigen Institut im Rahmen eines Forschungsvorhabens Vorschläge zur Ermittlung einer wirtschaftlichen Bewehrung von Flachdecken mit Vorspannung ohne Verbund erarbeitet. Im ersten Teil dieser Forschungsarbeit wurden, ausgehend von bekannten experimentellen und theoretischen Untersuchungen, die Gültigkeitsgrenzen der wichtigsten derzeit geltenden Normen für eine Beschreibung des Gebrauchslastbereichs überprüft und den mit dem Programm "SAP IV" errechneten Ergebnissen gegenübergestellt. Außerdem wurden Versuche an einer Flachdecke im Maßstab 1:1 unter erhöhten Gebrauchslasten durchgeführt und mit den Rechenergebnissen verglichen.

Aus den für das o. g. Forschungsvorhaben durchgeführten rechnerischen Untersuchungen mit dem Rechenprogramm "SAP IV" wurde für diesen Bericht ein Rechenlauf ausgewählt: In Bild 1 sind die Abmessungen der untersuchten Spannbeton-Flachdecke dargestellt. Die 6 Felder der Flachdecke unterscheiden sich im wesentlichen durch die eingebaute Schlauffbewehrung; mit Hilfe der finiten Elementrechnung wurde zunächst das Trag- und Verformungsverhalten unter der Versuchsbelastung im ungerissenen Zustand untersucht und die Rechenergebnisse mit Ergebnissen einfacher Berechnungsmethoden verglichen; für diese Untersuchung genügte die Berechnung jeweils eines Eck- bzw. Randfeldes unter entsprechender Belastung. (Die unterschiedlich hohe Schlauffbewehrung der einzelnen Deckenfelder führt erst im gerissenen Zustand zu unterschiedlichem Trag- und Verformungsverhalten). Die Bilder 2 und 3

zeigen die Aufteilung der Flachdecke in die der Rechnung zugrundegelegten finiten Elemente. (159 Teilflächen mit 168 Systemknotenpunkten). Die Elemententeilung erfolgte unter dem Gesichtspunkt, daß ein Vergleich der rechnerischen und experimentellen Ergebnisse miteinander möglich war. In Bild 4 sind die Ergebnisse der finiten Elementrechnung mit den experimentellen Ergebnissen verglichen und bewertet.

Als Anlage wird ein Abdruck der mit SAP IV für die Lastfälle Versuchslast (Gleichlast im mittleren Bereich des Feldes) und Eigengewicht ermittelten Verformungen bzw. Schnittgrößen des Eckfeldes beigefügt. Für den Lastfall Vorspannung wurde ein gesonderter Lauf durchgeführt, weil hier mit Rücksicht auf die Spannstahlführung eine neue Aufteilung der finiten Elemente erforderlich war. Wegen der Menge der Ausgabedaten werden die Ergebnisse dieser Berechnung nicht beigefügt. Der Abdruck in der Anlage soll hauptsächlich die Leistungsfähigkeit des Programmes SAP IV zeigen.

#### 4 Erläuterung der in der Anlage beigefügten Ausgabenliste

Die Ausgabenliste besteht im allgemeinen aus zwei Teilen. Der erste Abschnitt, Seite 1 bis 28 beinhaltet die Darstellung der Eingabedaten, während der zweite Abschnitt die Ergebnisse des Rechenlaufes darstellt (S. 29 bis 59).

##### 4.1 Eingabedaten

Auf Seite 1 sind die globalen Eingabedaten wie Anzahl der Elementtypen, Anzahl der Knotenpunkte usw. angegeben. Für die Untersuchung der Spannbetonflachdecke wurden zwei Elementtypen zugrundegelegt nämlich das dünne Plattenelement (Elementtyp 6) und für die Auflagerbereiche das Randelement (Elementtyp 7). Mit Hilfe des Randelementes ist es sowohl möglich Knotenverschiebungen vorzugeben, als auch durch Nullsetzen der Verschiebung Auflagerpunkte vorzugeben. Die jeweilige Funktion der Randelemente wird über die Kennziffer des Freiheitsgrades gesteuert. Die Tabelle der Seiten 2 bis 19 geben Aufschluß über die geometrische

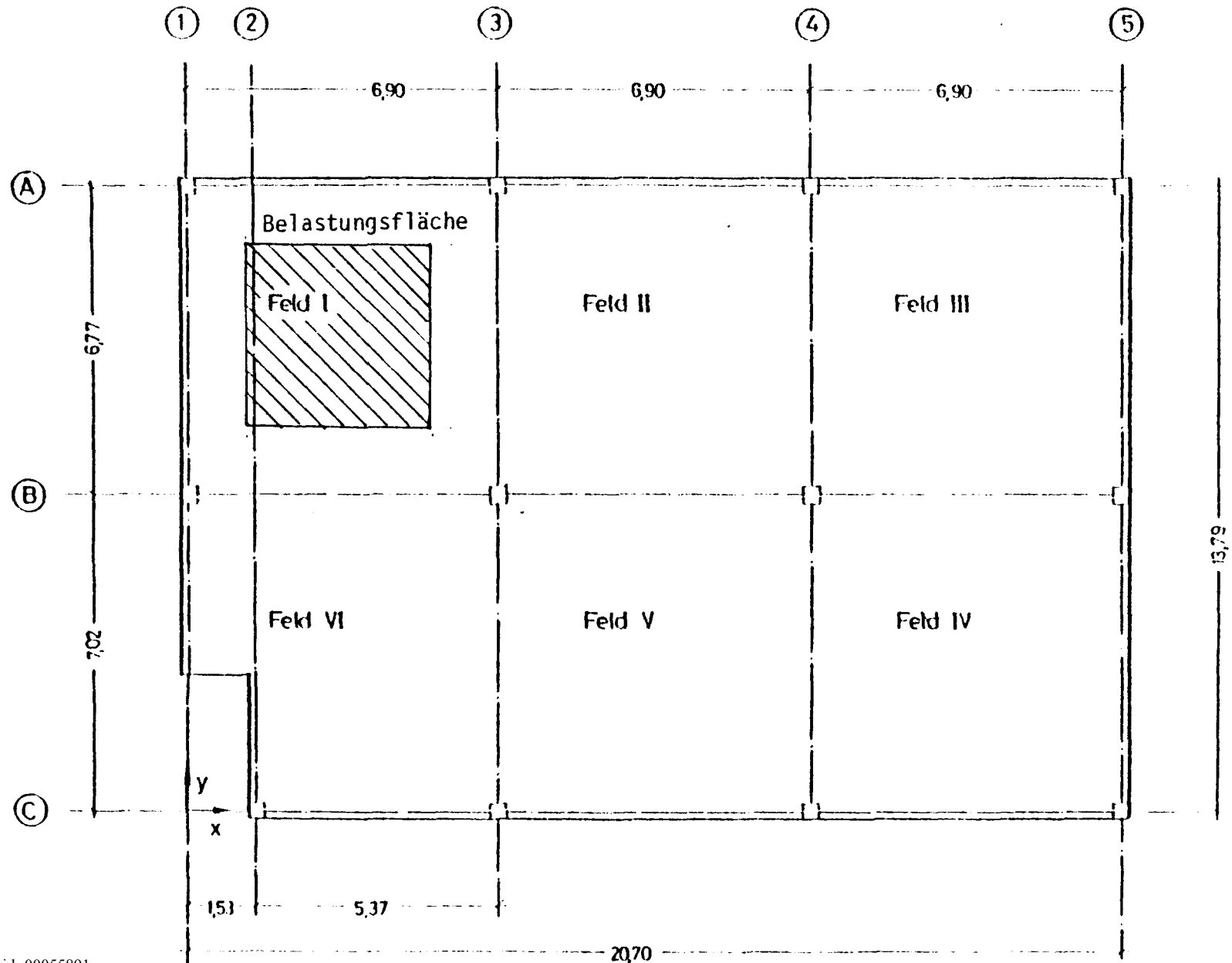
Lage der Knotenpunkte sowie über die Anzahl der Freiheitsgrade jedes Knoten. Die Numerierung und Beschreibung der finiten Elemente, die jeweilige Elementdicke und -belastung sind in den Tabellen der Seiten 20 bis 24 dargestellt.

#### 4.2 Ausgabedaten

In dem zweiten Abschnitt der Ausgabenliste, Seite 29 bis 59 sind die Ergebnisse des Rechenverlaufes mit den in 4.1 beschriebenen Eingabedaten dargestellt. Zunächst sind auf den Seiten 29 bis 39 die Verschiebungen und Verdrehungen der Knotenpunkte infolge der Versuchslast (Lastfall 1) und infolge Eigengewicht (Lastfall 2) angegeben.

Die Membranspannungen sowie die Biegemomente infolge der Lastfälle 1 und 2 sind auf den Seiten 40 bis 57 für die jeweiligen Elemente in den Elementmittelpunkten angegeben. Anschließend ab Seite 58 sind die Auflagerkräfte der Flachdeckenstützpunkte dargestellt.





Einteilung der Flachdecke in finite Elemente

|    |    |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 1  | 10 | 19  | 28  | 37  | 46  | 55  | 64  | 73  | 106 | 107 |     |     |     |     |     |
| 2  | 11 | 20  | 29  | 38  | 47  | 56  | 65  | 74  | 108 | 109 | 130 | 136 | 142 | 148 | 154 |
| 3  | 12 | 21  | 30  | 39  | 48  | 57  | 66  | 75  | 110 | 111 |     |     |     |     |     |
| 4  | 13 | 22  | 31  | 40  | 49  | 58  | 67  | 76  | 112 | 113 |     |     |     |     |     |
| 5  | 14 | 23  | 32  | 41  | 50  | 59  | 68  | 77  | 114 | 115 | 131 | 137 | 143 | 149 | 155 |
| 6  | 15 | 24  | 33  | 42  | 51  | 60  | 69  | 78  | 116 | 117 |     |     |     |     |     |
| 7  | 16 | 25  | 34  | 43  | 52  | 61  | 70  | 79  | 118 | 119 |     |     |     |     |     |
| 8  | 17 | 26  | 35  | 44  | 53  | 62  | 71  | 80  | 120 | 121 | 132 | 138 | 144 | 150 | 156 |
| 9  | 18 | 27  | 36  | 45  | 54  | 63  | 72  | 81  | 122 | 123 |     |     |     |     |     |
| 82 | 84 | 86  | 90  | 92  | 94  | 98  | 100 | 102 | 124 | 125 |     |     |     |     |     |
| 83 | 87 | 91  | 95  | 99  | 101 | 103 | 105 | 107 | 126 | 127 | 133 | 139 | 145 | 151 | 157 |
| 85 | 89 | 93  | 97  | 101 | 105 | 109 | 113 | 117 | 121 | 125 |     |     |     |     |     |
| 88 | 96 | 104 | 112 | 120 | 128 | 134 | 140 | 146 | 152 | 158 |     |     |     |     |     |
| 89 | 97 | 105 | 113 | 121 | 129 | 135 | 141 | 147 | 153 | 159 |     |     |     |     |     |

Bild 2

|    |     |    |    |    |    |    |    |     |     |     |  |     |     |     |     |     |     |
|----|-----|----|----|----|----|----|----|-----|-----|-----|--|-----|-----|-----|-----|-----|-----|
| 12 | 25  | 35 | 49 | 60 | 70 | 84 | 95 | 105 | 119 | 126 |  | 133 | 140 | 147 | 154 | 161 | 168 |
| 13 |     | 34 | 48 | 59 | 69 | 83 | 94 | 104 | 118 | 125 |  |     |     |     |     |     |     |
| 12 | .7  | 33 | 47 | 58 | 68 | 82 | 93 | 103 | 117 |     |  |     |     |     |     |     |     |
| 11 |     | 32 | 46 | 57 | 67 | 81 | 92 | 102 | 116 | 124 |  | 132 | 139 | 146 | 153 | 160 | 167 |
| 10 |     | 31 | 45 | 56 | 66 | 80 | 91 | 101 | 115 | 123 |  | .14 |     |     |     |     |     |
| 9  | .11 | 30 | 44 | 55 | 65 | 79 | 90 | 100 | 114 | 122 |  |     |     |     |     |     |     |
| 8  |     | 29 | 43 | 54 | 64 | 78 | 89 | 99  | 113 | 121 |  | 131 | 138 | 145 | 152 | 159 | 166 |
| 7  |     | 28 | 42 | 53 | 63 | 77 | 88 | 98  | 112 |     |  |     |     |     |     |     |     |
| 6  | .6  | 27 | 41 | 52 | 62 | 76 | 87 | 97  | 111 | 120 |  |     |     |     |     |     |     |
| 5  |     | 26 | 40 | 51 | 61 | 75 | 86 | 96  | 110 | 119 |  | 130 | 137 | 144 | 151 | 158 | 165 |
| 4  |     | 25 | 39 | 50 | 60 | 74 | 85 | 95  | 109 |     |  |     |     |     |     |     |     |
| 3  |     | 24 | 38 | 49 | 59 | 73 | 84 | 94  | 108 | 129 |  | 129 | 136 | 143 | 150 | 157 | 164 |
| 2  |     | 23 | 37 | 48 | 58 | 72 | 83 | 93  | 107 | 128 |  | .38 | 135 | 142 | 149 | 156 | 163 |
| 1  |     | 22 | 36 | 47 | 57 | 71 | 82 | 92  | 106 | 127 |  |     | 134 | 141 | 148 | 155 | 162 |

13/03/2014

# Vergleich der rechnerischen mit den experimentellen Durchbiegungswerten

## Feld I

| Meßpunkte | Durchbiegungen in mm                           |               |                                  |               |
|-----------|--|---------------|----------------------------------|---------------|
|           | F = 300 kN<br>Laststufe vor der Erstrißbildung |               | F = 480 kN<br>maximale Belastung |               |
|           | rechnerisch<br>SAP IV                          | experimentell | rechnerisch<br>SAP IV            | experimentell |
| 1         | 7,1  | 7,3           | 11,5                             | 14,5          |
| 2         | 7,0  | 6,3           | 11,2                             | 14,6          |
| 3         | 7,0  | 7,1           | 11,2                             | 14,7          |
| 4         | 6,1  | 6,3           | 9,8                              | 12,3          |
| 5         | 6,1  | 5,7           | 9,8                              | 9,9           |
| 6         | 4,1  | 3,8           | 6,6                              | 8,3           |
| 7         | 5,2  | 4,8           | 8,3                              | 11,2          |
| 8         | 4,1  | 4,4           | 6,6                              | 10,1          |
| 9         | 3,3  | 3,3           | 5,2                              | 7,5           |
| 10        | 4,2  | 3,1           | 6,8                              | 7,2           |
| 11        | 4,8  | 4,0           | 7,6                              | 8,5           |
| 12        | 5,0  | -             | 8,0                              | 10,7          |
| 13        | 2,5  | 2,9           | 3,9                              | 6,8           |
| 14        | 0,0  | 0,2           | 0,0                              | 0,3           |
| 38        | -0,7   | -0,6          | -1,2                             | -1,2          |

## A N L A G E

### R E C H E N B E I S P I E L

Eckfeld einer Flachdecke gem. Bild 1

Belastung aus Eigengewicht =  $6,5 \text{ kN/m}^2$

Versuchslast =  $28,1 \text{ kN/m}^2$

DECKENPLATTE - MESZSTELLEN IM ELEMENTMITTELPUNKT - P=480 KN

C O N T R O L I N F O R M A T I O N

NUMBER OF NODAL POINTS = 183  
 NUMBER OF ELEMENT TYPES = 2  
 NUMBER OF LOAD CASES = 2  
 NUMBER OF FREQUENCIES = 0  
 ANALYSIS CODE (NDYN) = 0  
     EQ.0, STATIC  
     EQ.1, MODAL EXTRACTION  
     EQ.2, FORCED RESPONSE  
     EQ.3, RESPONSE SPECTRUM  
     EQ.4, DIRECT INTEGRATION  
 SOLUTION MODE (MODEX) = 0  
     EQ.0, EXECUTION  
     EQ.1, DATA CHECK  
 NUMBER OF SUBSPACE  
 ITERATION VECTORS (NAD) = 0  
 EQUATIONS PER BLOCK = 0  
 TAPE10 SAVE FLAG (N10SV) = 0

NODAL POINT INPUT DATA

| NODE<br>NUMBER | BOUNDARY CONDITION CODES |   |   |    |    |    |
|----------------|--------------------------|---|---|----|----|----|
|                | X                        | Y | Z | XX | YY | ZZ |
| 1              | 0                        | 0 | 0 | 0  | 0  | 1  |
| 3              | 0                        | 0 | 0 | 0  | 0  | 1  |
| 4              | 0                        | 0 | 0 | 0  | 0  | 1  |
| 5              | 0                        | 0 | 0 | 0  | 0  | 1  |
| 6              | 0                        | 0 | 0 | 0  | 0  | 1  |
| 8              | 0                        | 0 | 0 | 0  | 0  | 1  |
| 9              | 0                        | 0 | 0 | 0  | 0  | 1  |
| 10             | 0                        | 0 | 0 | 0  | 0  | 1  |
| 11             | 0                        | 0 | 0 | 0  | 0  | 1  |
| 13             | 0                        | 0 | 0 | 0  | 0  | 1  |
| 14             | 0                        | 0 | 0 | 0  | 0  | 1  |
| 15             | 0                        | 0 | 0 | 0  | 0  | 1  |
| 16             | 0                        | 0 | 0 | 0  | 0  | 1  |
| 17             | 0                        | 0 | 0 | 0  | 0  | 1  |
| 19             | 0                        | 0 | 0 | 0  | 0  | 1  |
| 20             | 0                        | 0 | 0 | 0  | 0  | 1  |
| 21             | 0                        | 0 | 0 | 0  | 0  | 1  |
| 22             | 0                        | 0 | 0 | 0  | 0  | 1  |
| 24             | 0                        | 0 | 0 | 0  | 0  | 1  |
| 25             | 0                        | 0 | 0 | 0  | 0  | 1  |
| 26             | 0                        | 0 | 0 | 0  | 0  | 1  |
| 27             | 0                        | 0 | 0 | 0  | 0  | 1  |
| 29             | 0                        | 0 | 0 | 0  | 0  | 1  |
| 30             | 0                        | 0 | 0 | 0  | 0  | 1  |
| 31             | 0                        | 0 | 0 | 0  | 0  | 1  |
| 32             | 0                        | 0 | 0 | 0  | 0  | 1  |
| 34             | 0                        | 0 | 0 | 0  | 0  | 1  |
| 35             | 0                        | 0 | 0 | 0  | 0  | 1  |
| 36             | 0                        | 0 | 0 | 0  | 0  | 1  |
| 38             | 0                        | 0 | 0 | 0  | 0  | 1  |
| 39             | 0                        | 0 | 0 | 0  | 0  | 1  |
| 40             | 0                        | 0 | 0 | 0  | 0  | 1  |
| 41             | 0                        | 0 | 0 | 0  | 0  | 1  |

NODAL POINT COORDINATES

| X     | Y      | Z     | T |
|-------|--------|-------|---|
| 0.000 | 0.000  | 0.000 | 0 |
| 0.000 | 4.680  | 0.000 | 1 |
| 0.000 | 6.220  | 0.000 | 0 |
| 0.000 | 7.020  | 0.000 | 0 |
| 0.000 | 8.052  | 0.000 | 0 |
| 0.000 | 9.522  | 0.000 | 1 |
| 0.000 | 10.112 | 0.000 | 0 |
| 0.000 | 10.697 | 0.000 | 0 |
| 0.000 | 11.287 | 0.000 | 0 |
| 0.000 | 12.757 | 0.000 | 1 |
| 0.000 | 13.790 | 0.000 | 0 |
| 1.400 | 6.220  | 0.000 | 0 |
| 1.000 | 7.020  | 0.000 | 0 |
| 1.000 | 8.052  | 0.000 | 0 |
| 1.000 | 9.522  | 0.000 | 1 |
| 1.000 | 10.112 | 0.000 | 0 |
| 1.000 | 10.697 | 0.000 | 0 |
| 1.000 | 11.287 | 0.000 | 0 |
| 1.000 | 12.757 | 0.000 | 1 |
| 1.000 | 13.790 | 0.000 | 0 |
| 1.800 | 7.020  | 0.000 | 0 |
| 1.800 | 8.052  | 0.000 | 0 |
| 1.800 | 9.522  | 0.000 | 1 |
| 1.800 | 10.112 | 0.000 | 0 |
| 1.800 | 10.697 | 0.000 | 0 |
| 1.800 | 11.287 | 0.000 | 0 |
| 1.800 | 12.757 | 0.000 | 1 |
| 1.800 | 13.790 | 0.000 | 0 |
| 2.600 | 0.000  | 0.000 | 0 |
| 2.600 | 4.680  | 0.000 | 1 |
| 2.600 | 6.220  | 0.000 | 0 |
| 2.600 | 7.020  | 0.000 | 0 |
| 2.600 | 8.052  | 0.000 | 0 |

|    |   |   |   |   |   |   |       |        |       |   |       |
|----|---|---|---|---|---|---|-------|--------|-------|---|-------|
| 43 | 0 | 0 | 0 | 0 | 0 | 1 | 2.600 | 9.522  | 0.000 | 1 | 0.000 |
| 44 | 0 | 0 | 0 | 0 | 0 | 1 | 2.600 | 10.112 | 0.000 | 0 | 0.000 |
| 45 | 0 | 0 | 0 | 0 | 0 | 1 | 2.600 | 10.697 | 0.000 | 0 | 0.000 |
| 46 | 0 | 0 | 0 | 0 | 0 | 1 | 2.600 | 11.287 | 0.000 | 0 | 0.000 |
| 48 | 0 | 0 | 0 | 0 | 0 | 1 | 2.600 | 12.757 | 0.000 | 1 | 0.000 |
| 49 | 0 | 0 | 0 | 0 | 0 | 1 | 2.600 | 13.790 | 0.000 | 0 | 0.000 |
| 50 | 0 | 0 | 0 | 0 | 0 | 1 | 3.450 | 6.220  | 0.000 | 0 | 0.000 |
| 51 | 0 | 0 | 0 | 0 | 0 | 1 | 3.170 | 7.020  | 0.000 | 0 | 0.000 |
| 52 | 0 | 0 | 0 | 0 | 0 | 1 | 3.170 | 8.052  | 0.000 | 0 | 0.000 |
| 54 | 0 | 0 | 0 | 0 | 0 | 1 | 3.170 | 9.522  | 0.000 | 1 | 0.000 |
| 55 | 0 | 0 | 0 | 0 | 0 | 1 | 3.170 | 10.112 | 0.000 | 0 | 0.000 |
| 56 | 0 | 0 | 0 | 0 | 0 | 1 | 3.170 | 10.697 | 0.000 | 0 | 0.000 |
| 57 | 0 | 0 | 0 | 0 | 0 | 1 | 3.170 | 11.287 | 0.000 | 0 | 0.000 |
| 59 | 0 | 0 | 0 | 0 | 0 | 1 | 3.170 | 12.757 | 0.000 | 1 | 0.000 |
| 60 | 0 | 0 | 0 | 0 | 0 | 1 | 3.170 | 13.790 | 0.000 | 0 | 0.000 |
| 61 | 0 | 0 | 0 | 0 | 0 | 1 | 3.730 | 7.020  | 0.000 | 0 | 0.000 |
| 62 | 0 | 0 | 0 | 0 | 0 | 1 | 3.730 | 8.052  | 0.000 | 0 | 0.000 |
| 64 | 0 | 0 | 0 | 0 | 0 | 1 | 3.730 | 9.522  | 0.000 | 1 | 0.000 |
| 65 | 0 | 0 | 0 | 0 | 0 | 1 | 3.730 | 10.112 | 0.000 | 0 | 0.000 |
| 66 | 0 | 0 | 0 | 0 | 0 | 1 | 3.730 | 10.697 | 0.000 | 0 | 0.000 |
| 67 | 0 | 0 | 0 | 0 | 0 | 1 | 3.730 | 11.287 | 0.000 | 0 | 0.000 |
| 69 | 0 | 0 | 0 | 0 | 0 | 1 | 3.730 | 12.757 | 0.000 | 1 | 0.000 |
| 70 | 0 | 0 | 0 | 0 | 0 | 1 | 3.730 | 13.790 | 0.000 | 0 | 0.000 |
| 71 | 0 | 0 | 0 | 0 | 0 | 1 | 4.300 | 0.000  | 0.000 | 0 | 0.000 |
| 73 | 0 | 0 | 0 | 0 | 0 | 1 | 4.300 | 4.680  | 0.000 | 1 | 0.000 |
| 74 | 0 | 0 | 0 | 0 | 0 | 1 | 4.300 | 6.220  | 0.000 | 0 | 0.000 |
| 75 | 0 | 0 | 0 | 0 | 0 | 1 | 4.300 | 7.020  | 0.000 | 0 | 0.000 |
| 76 | 0 | 0 | 0 | 0 | 0 | 1 | 4.300 | 8.052  | 0.000 | 0 | 0.000 |
| 78 | 0 | 0 | 0 | 0 | 0 | 1 | 4.300 | 9.522  | 0.000 | 1 | 0.000 |
| 79 | 0 | 0 | 0 | 0 | 0 | 1 | 4.300 | 10.112 | 0.000 | 0 | 0.000 |
| 80 | 0 | 0 | 0 | 0 | 0 | 1 | 4.300 | 10.697 | 0.000 | 0 | 0.000 |
| 81 | 0 | 0 | 0 | 0 | 0 | 1 | 4.300 | 11.287 | 0.000 | 0 | 0.000 |
| 83 | 0 | 0 | 0 | 0 | 0 | 1 | 4.300 | 12.757 | 0.000 | 1 | 0.000 |
| 84 | 0 | 0 | 0 | 0 | 0 | 1 | 4.300 | 13.790 | 0.000 | 0 | 0.000 |
| 85 | 0 | 0 | 0 | 0 | 0 | 1 | 5.500 | 6.220  | 0.000 | 0 | 0.000 |
| 86 | 0 | 0 | 0 | 0 | 0 | 1 | 5.100 | 7.020  | 0.000 | 0 | 0.000 |



|     |   |   |   |   |   |   |        |        |       |   |       |
|-----|---|---|---|---|---|---|--------|--------|-------|---|-------|
| 87  | 0 | 0 | 0 | 0 | 0 | 1 | 5.100  | 8.052  | 0.000 | 0 | 0.000 |
| 89  | 0 | 0 | 0 | 0 | 0 | 1 | 5.100  | 9.522  | 0.000 | 1 | 0.000 |
| 90  | 0 | 0 | 0 | 0 | 0 | 1 | 5.100  | 10.112 | 0.000 | 0 | 0.000 |
| 91  | 0 | 0 | 0 | 0 | 0 | 1 | 5.100  | 10.697 | 0.000 | 0 | 0.000 |
| 92  | 0 | 0 | 0 | 0 | 0 | 1 | 5.100  | 11.287 | 0.000 | 0 | 0.000 |
| 94  | 0 | 0 | 0 | 0 | 0 | 1 | 5.100  | 12.757 | 0.000 | 1 | 0.000 |
| 95  | 0 | 0 | 0 | 0 | 0 | 1 | 5.100  | 13.790 | 0.000 | 0 | 0.000 |
| 96  | 0 | 0 | 0 | 0 | 0 | 1 | 5.900  | 7.020  | 0.000 | 0 | 0.000 |
| 97  | 0 | 0 | 0 | 0 | 0 | 1 | 5.900  | 8.052  | 0.000 | 0 | 0.000 |
| 99  | 0 | 0 | 0 | 0 | 0 | 1 | 5.900  | 9.522  | 0.000 | 1 | 0.000 |
| 100 | 0 | 0 | 0 | 0 | 0 | 1 | 5.900  | 10.112 | 0.000 | 0 | 0.000 |
| 101 | 0 | 0 | 0 | 0 | 0 | 1 | 5.900  | 10.697 | 0.000 | 0 | 0.000 |
| 102 | 0 | 0 | 0 | 0 | 0 | 1 | 5.900  | 11.287 | 0.000 | 0 | 0.000 |
| 104 | 0 | 0 | 0 | 0 | 0 | 1 | 5.900  | 12.757 | 0.000 | 1 | 0.000 |
| 105 | 0 | 0 | 0 | 0 | 0 | 1 | 5.900  | 13.790 | 0.000 | 0 | 0.000 |
| 106 | 0 | 0 | 0 | 0 | 0 | 1 | 6.900  | 0.000  | 0.000 | 0 | 0.000 |
| 108 | 0 | 0 | 0 | 0 | 0 | 1 | 6.900  | 4.680  | 0.000 | 1 | 0.000 |
| 109 | 0 | 0 | 0 | 0 | 0 | 1 | 6.900  | 6.220  | 0.000 | 0 | 0.000 |
| 110 | 0 | 0 | 0 | 0 | 0 | 1 | 6.900  | 7.020  | 0.000 | 0 | 0.000 |
| 111 | 0 | 0 | 0 | 0 | 0 | 1 | 6.900  | 8.052  | 0.000 | 0 | 0.000 |
| 113 | 0 | 0 | 0 | 0 | 0 | 1 | 6.900  | 9.522  | 0.000 | 1 | 0.000 |
| 114 | 0 | 0 | 0 | 0 | 0 | 1 | 6.900  | 10.112 | 0.000 | 0 | 0.000 |
| 115 | 0 | 0 | 0 | 0 | 0 | 1 | 6.900  | 10.697 | 0.000 | 0 | 0.000 |
| 116 | 0 | 0 | 0 | 0 | 0 | 1 | 6.900  | 11.287 | 0.000 | 0 | 0.000 |
| 118 | 0 | 0 | 0 | 0 | 0 | 1 | 6.900  | 12.757 | 0.000 | 1 | 0.000 |
| 119 | 0 | 0 | 0 | 0 | 0 | 1 | 6.900  | 13.790 | 0.000 | 0 | 0.000 |
| 120 | 0 | 0 | 0 | 0 | 0 | 1 | 7.700  | 7.020  | 0.000 | 0 | 0.000 |
| 122 | 0 | 0 | 0 | 0 | 0 | 1 | 7.700  | 9.522  | 0.000 | 1 | 0.000 |
| 123 | 0 | 0 | 0 | 0 | 0 | 1 | 7.700  | 10.405 | 0.000 | 0 | 0.000 |
| 124 | 0 | 0 | 0 | 0 | 0 | 1 | 7.700  | 11.287 | 0.000 | 0 | 0.000 |
| 126 | 0 | 0 | 0 | 0 | 0 | 1 | 7.700  | 13.790 | 0.000 | 1 | 0.000 |
| 127 | 0 | 0 | 0 | 0 | 0 | 1 | 9.200  | 0.000  | 0.000 | 0 | 0.000 |
| 162 | 0 | 0 | 0 | 0 | 0 | 1 | 20.700 | 0.000  | 0.000 | 7 | 0.000 |
| 128 | 0 | 0 | 0 | 0 | 0 | 1 | 9.200  | 2.340  | 0.000 | 0 | 0.000 |
| 163 | 0 | 0 | 0 | 0 | 0 | 1 | 20.700 | 2.340  | 0.000 | 7 | 0.000 |
| 129 | 0 | 0 | 0 | 0 | 0 | 1 | 9.200  | 4.680  | 0.000 | 0 | 0.000 |

|     |   |   |   |   |   |   |        |        |        |   |       |
|-----|---|---|---|---|---|---|--------|--------|--------|---|-------|
| 164 | 0 | 0 | 0 | 0 | 0 | 1 | 20.700 | 4.680  | 0.000  | 7 | 0.000 |
| 130 | 0 | 0 | 0 | 0 | 0 | 1 | 9.200  | 7.020  | 0.000  | 0 | 0.000 |
| 165 | 0 | 0 | 0 | 0 | 0 | 1 | 20.700 | 7.020  | 0.000  | 7 | 0.000 |
| 131 | 0 | 0 | 0 | 0 | 0 | 1 | 9.200  | 9.522  | 0.000  | 0 | 0.000 |
| 166 | 0 | 0 | 0 | 0 | 0 | 1 | 20.700 | 9.522  | 0.000  | 7 | 0.000 |
| 132 | 0 | 0 | 0 | 0 | 0 | 1 | 9.200  | 11.287 | 0.000  | 0 | 0.000 |
| 167 | 0 | 0 | 0 | 0 | 0 | 1 | 20.700 | 11.287 | 0.000  | 7 | 0.000 |
| 133 | 0 | 0 | 0 | 0 | 0 | 1 | 9.200  | 13.790 | 0.000  | 0 | 0.000 |
| 168 | 0 | 0 | 0 | 0 | 0 | 1 | 20.700 | 13.790 | 0.000  | 7 | 0.000 |
| 169 | 1 | 1 | 1 | 1 | 1 | 1 | 0.000  | 0.000  | -1.000 | 0 | 0.000 |
| 172 | 1 | 1 | 1 | 1 | 1 | 1 | 20.700 | 0.000  | -1.000 | 1 | 0.000 |
| 173 | 1 | 1 | 1 | 1 | 1 | 1 | 0.000  | 7.020  | -1.000 | 0 | 0.000 |
| 176 | 1 | 1 | 1 | 1 | 1 | 1 | 20.700 | 7.020  | -1.000 | 1 | 0.000 |
| 177 | 1 | 1 | 1 | 1 | 1 | 1 | 0.000  | 13.790 | -1.000 | 0 | 0.000 |
| 180 | 1 | 1 | 1 | 1 | 1 | 1 | 20.700 | 13.790 | -1.000 | 1 | 0.000 |
| 181 | 1 | 1 | 1 | 1 | 1 | 1 | 0.000  | -1.000 | 0.000  | 0 | 0.000 |
| 182 | 1 | 1 | 1 | 1 | 1 | 1 | -1.000 | 0.000  | 0.000  | 0 | 0.000 |
| 183 | 1 | 1 | 1 | 1 | 1 | 1 | -1.000 | 13.790 | 0.000  | 0 | 0.000 |

## GENERATED NODAL DATA

## NODE BOUNDARY CONDITION CODES

| NUMBER | X | Y | Z | XX | YY | ZZ |
|--------|---|---|---|----|----|----|
| 1      | 0 | 0 | 0 | 0  | 0  | 1  |
| 2      | 0 | 0 | 0 | 0  | 0  | 1  |
| 3      | 0 | 0 | 0 | 0  | 0  | 1  |
| 4      | 0 | 0 | 0 | 0  | 0  | 1  |
| 5      | 0 | 0 | 0 | 0  | 0  | 1  |
| 6      | 0 | 0 | 0 | 0  | 0  | 1  |
| 7      | 0 | 0 | 0 | 0  | 0  | 1  |
| 8      | 0 | 0 | 0 | 0  | 0  | 1  |
| 9      | 0 | 0 | 0 | 0  | 0  | 1  |
| 10     | 0 | 0 | 0 | 0  | 0  | 1  |
| 11     | 0 | 0 | 0 | 0  | 0  | 1  |
| 12     | 0 | 0 | 0 | 0  | 0  | 1  |
| 13     | 0 | 0 | 0 | 0  | 0  | 1  |
| 14     | 0 | 0 | 0 | 0  | 0  | 1  |
| 15     | 0 | 0 | 0 | 0  | 0  | 1  |
| 16     | 0 | 0 | 0 | 0  | 0  | 1  |
| 17     | 0 | 0 | 0 | 0  | 0  | 1  |
| 18     | 0 | 0 | 0 | 0  | 0  | 1  |
| 19     | 0 | 0 | 0 | 0  | 0  | 1  |
| 20     | 0 | 0 | 0 | 0  | 0  | 1  |
| 21     | 0 | 0 | 0 | 0  | 0  | 1  |
| 22     | 0 | 0 | 0 | 0  | 0  | 1  |
| 23     | 0 | 0 | 0 | 0  | 0  | 1  |
| 24     | 0 | 0 | 0 | 0  | 0  | 1  |
| 25     | 0 | 0 | 0 | 0  | 0  | 1  |
| 26     | 0 | 0 | 0 | 0  | 0  | 1  |
| 27     | 0 | 0 | 0 | 0  | 0  | 1  |
| 28     | 0 | 0 | 0 | 0  | 0  | 1  |
| 29     | 0 | 0 | 0 | 0  | 0  | 1  |
| 30     | 0 | 0 | 0 | 0  | 0  | 1  |
| 31     | 0 | 0 | 0 | 0  | 0  | 1  |
| 32     | 0 | 0 | 0 | 0  | 0  | 1  |
| 33     | 0 | 0 | 0 | 0  | 0  | 1  |

## NODAL POINT COORDINATES

| X     | Y      | Z     | T     |
|-------|--------|-------|-------|
| 0.000 | 0.000  | 0.000 | 0.000 |
| 0.000 | 2.340  | 0.000 | 0.000 |
| 0.000 | 4.680  | 0.000 | 0.000 |
| 0.000 | 6.220  | 0.000 | 0.000 |
| 0.000 | 7.020  | 0.000 | 0.000 |
| 0.000 | 8.052  | 0.000 | 0.000 |
| 0.000 | 8.787  | 0.000 | 0.000 |
| 0.000 | 9.522  | 0.000 | 0.000 |
| 0.000 | 10.112 | 0.000 | 0.000 |
| 0.000 | 10.697 | 0.000 | 0.000 |
| 0.000 | 11.287 | 0.000 | 0.000 |
| 0.000 | 12.022 | 0.000 | 0.000 |
| 0.000 | 12.757 | 0.000 | 0.000 |
| 0.000 | 13.790 | 0.000 | 0.000 |
| 1.400 | 6.220  | 0.000 | 0.000 |
| 1.000 | 7.020  | 0.000 | 0.000 |
| 1.000 | 8.052  | 0.000 | 0.000 |
| 1.000 | 8.787  | 0.000 | 0.000 |
| 1.000 | 9.522  | 0.000 | 0.000 |
| 1.000 | 10.112 | 0.000 | 0.000 |
| 1.000 | 10.697 | 0.000 | 0.000 |
| 1.000 | 11.287 | 0.000 | 0.000 |
| 1.000 | 12.022 | 0.000 | 0.000 |
| 1.000 | 12.757 | 0.000 | 0.000 |
| 1.000 | 13.790 | 0.000 | 0.000 |
| 1.800 | 7.020  | 0.000 | 0.000 |
| 1.800 | 8.052  | 0.000 | 0.000 |
| 1.800 | 8.787  | 0.000 | 0.000 |
| 1.800 | 9.522  | 0.000 | 0.000 |
| 1.800 | 10.112 | 0.000 | 0.000 |
| 1.800 | 10.697 | 0.000 | 0.000 |
| 1.800 | 11.287 | 0.000 | 0.000 |
| 1.800 | 12.022 | 0.000 | 0.000 |

|    |   |   |   |   |   |   |       |        |       |       |
|----|---|---|---|---|---|---|-------|--------|-------|-------|
| 34 | 0 | 0 | 0 | 0 | 0 | 1 | 1.800 | 12.757 | 0.000 | 0.000 |
| 35 | 0 | 0 | 0 | 0 | 0 | 1 | 1.800 | 13.790 | 0.000 | 0.000 |
| 36 | 0 | 0 | 0 | 0 | 0 | 1 | 2.600 | 0.000  | 0.000 | 0.000 |
| 37 | 0 | 0 | 0 | 0 | 0 | 1 | 2.600 | 2.340  | 0.000 | 0.000 |
| 38 | 0 | 0 | 0 | 0 | 0 | 1 | 2.600 | 4.680  | 0.000 | 0.000 |
| 39 | 0 | 0 | 0 | 0 | 0 | 1 | 2.600 | 6.220  | 0.000 | 0.000 |
| 40 | 0 | 0 | 0 | 0 | 0 | 1 | 2.600 | 7.020  | 0.000 | 0.000 |
| 41 | 0 | 0 | 0 | 0 | 0 | 1 | 2.600 | 8.052  | 0.000 | 0.000 |
| 42 | 0 | 0 | 0 | 0 | 0 | 1 | 2.600 | 8.787  | 0.000 | 0.000 |
| 43 | 0 | 0 | 0 | 0 | 0 | 1 | 2.600 | 9.522  | 0.000 | 0.000 |
| 44 | 0 | 0 | 0 | 0 | 0 | 1 | 2.600 | 10.112 | 0.000 | 0.000 |
| 45 | 0 | 0 | 0 | 0 | 0 | 1 | 2.600 | 10.697 | 0.000 | 0.000 |
| 46 | 0 | 0 | 0 | 0 | 0 | 1 | 2.600 | 11.287 | 0.000 | 0.000 |
| 47 | 0 | 0 | 0 | 0 | 0 | 1 | 2.600 | 12.022 | 0.000 | 0.000 |
| 48 | 0 | 0 | 0 | 0 | 0 | 1 | 2.600 | 12.757 | 0.000 | 0.000 |
| 49 | 0 | 0 | 0 | 0 | 0 | 1 | 2.600 | 13.790 | 0.000 | 0.000 |
| 50 | 0 | 0 | 0 | 0 | 0 | 1 | 3.450 | 6.220  | 0.000 | 0.000 |
| 51 | 0 | 0 | 0 | 0 | 0 | 1 | 3.170 | 7.020  | 0.000 | 0.000 |
| 52 | 0 | 0 | 0 | 0 | 0 | 1 | 3.170 | 8.052  | 0.000 | 0.000 |
| 53 | 0 | 0 | 0 | 0 | 0 | 1 | 3.170 | 8.787  | 0.000 | 0.000 |
| 54 | 0 | 0 | 0 | 0 | 0 | 1 | 3.170 | 9.522  | 0.000 | 0.000 |
| 55 | 0 | 0 | 0 | 0 | 0 | 1 | 3.170 | 10.112 | 0.000 | 0.000 |
| 56 | 0 | 0 | 0 | 0 | 0 | 1 | 3.170 | 10.697 | 0.000 | 0.000 |
| 57 | 0 | 0 | 0 | 0 | 0 | 1 | 3.170 | 11.287 | 0.000 | 0.000 |
| 58 | 0 | 0 | 0 | 0 | 0 | 1 | 3.170 | 12.022 | 0.000 | 0.000 |
| 59 | 0 | 0 | 0 | 0 | 0 | 1 | 3.170 | 12.757 | 0.000 | 0.000 |
| 60 | 0 | 0 | 0 | 0 | 0 | 1 | 3.170 | 13.790 | 0.000 | 0.000 |
| 61 | 0 | 0 | 0 | 0 | 0 | 1 | 3.730 | 7.020  | 0.000 | 0.000 |
| 62 | 0 | 0 | 0 | 0 | 0 | 1 | 3.730 | 8.052  | 0.000 | 0.000 |
| 63 | 0 | 0 | 0 | 0 | 0 | 1 | 3.730 | 8.787  | 0.000 | 0.000 |
| 64 | 0 | 0 | 0 | 0 | 0 | 1 | 3.730 | 9.522  | 0.000 | 0.000 |
| 65 | 0 | 0 | 0 | 0 | 0 | 1 | 3.730 | 10.112 | 0.000 | 0.000 |
| 66 | 0 | 0 | 0 | 0 | 0 | 1 | 3.730 | 10.697 | 0.000 | 0.000 |
| 67 | 0 | 0 | 0 | 0 | 0 | 1 | 3.730 | 11.287 | 0.000 | 0.000 |
| 68 | 0 | 0 | 0 | 0 | 0 | 1 | 3.730 | 12.022 | 0.000 | 0.000 |
| 69 | 0 | 0 | 0 | 0 | 0 | 1 | 3.730 | 12.757 | 0.000 | 0.000 |

|     |   |   |   |   |   |   |       |        |       |       |
|-----|---|---|---|---|---|---|-------|--------|-------|-------|
| 70  | 0 | 0 | 0 | 0 | 0 | 1 | 3.730 | 13.790 | 0.000 | 0.000 |
| 71  | 0 | 0 | 0 | 0 | 0 | 1 | 4.300 | 0.000  | 0.000 | 0.000 |
| 72  | 0 | 0 | 0 | 0 | 0 | 1 | 4.300 | 2.340  | 0.000 | 0.000 |
| 73  | 0 | 0 | 0 | 0 | 0 | 1 | 4.300 | 4.680  | 0.000 | 0.000 |
| 74  | 0 | 0 | 0 | 0 | 0 | 1 | 4.300 | 6.220  | 0.000 | 0.000 |
| 75  | 0 | 0 | 0 | 0 | 0 | 1 | 4.300 | 7.020  | 0.000 | 0.000 |
| 76  | 0 | 0 | 0 | 0 | 0 | 1 | 4.300 | 8.052  | 0.000 | 0.000 |
| 77  | 0 | 0 | 0 | 0 | 0 | 1 | 4.300 | 8.787  | 0.000 | 0.000 |
| 78  | 0 | 0 | 0 | 0 | 0 | 1 | 4.300 | 9.522  | 0.000 | 0.000 |
| 79  | 0 | 0 | 0 | 0 | 0 | 1 | 4.300 | 10.112 | 0.000 | 0.000 |
| 80  | 0 | 0 | 0 | 0 | 0 | 1 | 4.300 | 10.697 | 0.000 | 0.000 |
| 81  | 0 | 0 | 0 | 0 | 0 | 1 | 4.300 | 11.287 | 0.000 | 0.000 |
| 82  | 0 | 0 | 0 | 0 | 0 | 1 | 4.300 | 12.022 | 0.000 | 0.000 |
| 83  | 0 | 0 | 0 | 0 | 0 | 1 | 4.300 | 12.757 | 0.000 | 0.000 |
| 84  | 0 | 0 | 0 | 0 | 0 | 1 | 4.300 | 13.790 | 0.000 | 0.000 |
| 85  | 0 | 0 | 0 | 0 | 0 | 1 | 5.500 | 6.220  | 0.000 | 0.000 |
| 86  | 0 | 0 | 0 | 0 | 0 | 1 | 5.100 | 7.020  | 0.000 | 0.000 |
| 87  | 0 | 0 | 0 | 0 | 0 | 1 | 5.100 | 8.052  | 0.000 | 0.000 |
| 88  | 0 | 0 | 0 | 0 | 0 | 1 | 5.100 | 8.787  | 0.000 | 0.000 |
| 89  | 0 | 0 | 0 | 0 | 0 | 1 | 5.100 | 9.522  | 0.000 | 0.000 |
| 90  | 0 | 0 | 0 | 0 | 0 | 1 | 5.100 | 10.112 | 0.000 | 0.000 |
| 91  | 0 | 0 | 0 | 0 | 0 | 1 | 5.100 | 10.697 | 0.000 | 0.000 |
| 92  | 0 | 0 | 0 | 0 | 0 | 1 | 5.100 | 11.287 | 0.000 | 0.000 |
| 93  | 0 | 0 | 0 | 0 | 0 | 1 | 5.100 | 12.022 | 0.000 | 0.000 |
| 94  | 0 | 0 | 0 | 0 | 0 | 1 | 5.100 | 12.757 | 0.000 | 0.000 |
| 95  | 0 | 0 | 0 | 0 | 0 | 1 | 5.100 | 13.790 | 0.000 | 0.000 |
| 96  | 0 | 0 | 0 | 0 | 0 | 1 | 5.900 | 7.020  | 0.000 | 0.000 |
| 97  | 0 | 0 | 0 | 0 | 0 | 1 | 5.900 | 8.052  | 0.000 | 0.000 |
| 98  | 0 | 0 | 0 | 0 | 0 | 1 | 5.900 | 8.787  | 0.000 | 0.000 |
| 99  | 0 | 0 | 0 | 0 | 0 | 1 | 5.900 | 9.522  | 0.000 | 0.000 |
| 100 | 0 | 0 | 0 | 0 | 0 | 1 | 5.900 | 10.112 | 0.000 | 0.000 |
| 101 | 0 | 0 | 0 | 0 | 0 | 1 | 5.900 | 10.697 | 0.000 | 0.000 |
| 102 | 0 | 0 | 0 | 0 | 0 | 1 | 5.900 | 11.287 | 0.000 | 0.000 |
| 103 | 0 | 0 | 0 | 0 | 0 | 1 | 5.900 | 12.022 | 0.000 | 0.000 |
| 104 | 0 | 0 | 0 | 0 | 0 | 1 | 5.900 | 12.757 | 0.000 | 0.000 |
| 105 | 0 | 0 | 0 | 0 | 0 | 1 | 5.900 | 13.790 | 0.000 | 0.000 |

|     |   |   |   |   |   |   |        |        |       |       |
|-----|---|---|---|---|---|---|--------|--------|-------|-------|
| 106 | 0 | 0 | 0 | 0 | 0 | 1 | 6.900  | 0.000  | 0.000 | 0.000 |
| 107 | 0 | 0 | 0 | 0 | 0 | 1 | 6.900  | 2.340  | 0.000 | 0.000 |
| 108 | 0 | 0 | 0 | 0 | 0 | 1 | 6.900  | 4.680  | 0.000 | 0.000 |
| 109 | 0 | 0 | 0 | 0 | 0 | 1 | 6.900  | 6.220  | 0.000 | 0.000 |
| 110 | 0 | 0 | 0 | 0 | 0 | 1 | 6.900  | 7.020  | 0.000 | 0.000 |
| 111 | 0 | 0 | 0 | 0 | 0 | 1 | 6.900  | 8.052  | 0.000 | 0.000 |
| 112 | 0 | 0 | 0 | 0 | 0 | 1 | 6.900  | 8.787  | 0.000 | 0.000 |
| 113 | 0 | 0 | 0 | 0 | 0 | 1 | 6.900  | 9.522  | 0.000 | 0.000 |
| 114 | 0 | 0 | 0 | 0 | 0 | 1 | 6.900  | 10.112 | 0.000 | 0.000 |
| 115 | 0 | 0 | 0 | 0 | 0 | 1 | 6.900  | 10.697 | 0.000 | 0.000 |
| 116 | 0 | 0 | 0 | 0 | 0 | 1 | 6.900  | 11.287 | 0.000 | 0.000 |
| 117 | 0 | 0 | 0 | 0 | 0 | 1 | 6.900  | 12.022 | 0.000 | 0.000 |
| 118 | 0 | 0 | 0 | 0 | 0 | 1 | 6.900  | 12.757 | 0.000 | 0.000 |
| 119 | 0 | 0 | 0 | 0 | 0 | 1 | 6.900  | 13.790 | 0.000 | 0.000 |
| 120 | 0 | 0 | 0 | 0 | 0 | 1 | 7.700  | 7.020  | 0.000 | 0.000 |
| 121 | 0 | 0 | 0 | 0 | 0 | 1 | 7.700  | 8.271  | 0.000 | 0.000 |
| 122 | 0 | 0 | 0 | 0 | 0 | 1 | 7.700  | 9.522  | 0.000 | 0.000 |
| 123 | 0 | 0 | 0 | 0 | 0 | 1 | 7.700  | 10.405 | 0.000 | 0.000 |
| 124 | 0 | 0 | 0 | 0 | 0 | 1 | 7.700  | 11.287 | 0.000 | 0.000 |
| 125 | 0 | 0 | 0 | 0 | 0 | 1 | 7.700  | 12.539 | 0.000 | 0.000 |
| 126 | 0 | 0 | 0 | 0 | 0 | 1 | 7.700  | 13.790 | 0.000 | 0.000 |
| 127 | 0 | 0 | 0 | 0 | 0 | 1 | 9.200  | 0.000  | 0.000 | 0.000 |
| 128 | 0 | 0 | 0 | 0 | 0 | 1 | 9.200  | 2.340  | 0.000 | 0.000 |
| 129 | 0 | 0 | 0 | 0 | 0 | 1 | 9.200  | 4.680  | 0.000 | 0.000 |
| 130 | 0 | 0 | 0 | 0 | 0 | 1 | 9.200  | 7.020  | 0.000 | 0.000 |
| 131 | 0 | 0 | 0 | 0 | 0 | 1 | 9.200  | 9.522  | 0.000 | 0.000 |
| 132 | 0 | 0 | 0 | 0 | 0 | 1 | 9.200  | 11.287 | 0.000 | 0.000 |
| 133 | 0 | 0 | 0 | 0 | 0 | 1 | 9.200  | 13.790 | 0.000 | 0.000 |
| 134 | 0 | 0 | 0 | 0 | 0 | 1 | 11.500 | 0.000  | 0.000 | 0.000 |
| 135 | 0 | 0 | 0 | 0 | 0 | 1 | 11.500 | 2.340  | 0.000 | 0.000 |
| 136 | 0 | 0 | 0 | 0 | 0 | 1 | 11.500 | 4.680  | 0.000 | 0.000 |
| 137 | 0 | 0 | 0 | 0 | 0 | 1 | 11.500 | 7.020  | 0.000 | 0.000 |
| 138 | 0 | 0 | 0 | 0 | 0 | 1 | 11.500 | 9.522  | 0.000 | 0.000 |
| 139 | 0 | 0 | 0 | 0 | 0 | 1 | 11.500 | 11.287 | 0.000 | 0.000 |
| 140 | 0 | 0 | 0 | 0 | 0 | 1 | 11.500 | 13.790 | 0.000 | 0.000 |
| 141 | 0 | 0 | 0 | 0 | 0 | 1 | 13.800 | 0.000  | 0.000 | 0.000 |

|     |   |   |   |   |   |   |        |        |        |       |
|-----|---|---|---|---|---|---|--------|--------|--------|-------|
| 142 | 0 | 0 | 0 | 0 | 0 | 1 | 13.800 | 2.340  | 0.000  | 0.000 |
| 143 | 0 | 0 | 0 | 0 | 0 | 1 | 13.800 | 4.680  | 0.000  | 0.000 |
| 144 | 0 | 0 | 0 | 0 | 0 | 1 | 13.800 | 7.020  | 0.000  | 0.000 |
| 145 | 0 | 0 | 0 | 0 | 0 | 1 | 13.800 | 9.522  | 0.000  | 0.000 |
| 146 | 0 | 0 | 0 | 0 | 0 | 1 | 13.800 | 11.287 | 0.000  | 0.000 |
| 147 | 0 | 0 | 0 | 0 | 0 | 1 | 13.800 | 13.790 | 0.000  | 0.000 |
| 148 | 0 | 0 | 0 | 0 | 0 | 1 | 16.100 | 0.000  | 0.000  | 0.000 |
| 149 | 0 | 0 | 0 | 0 | 0 | 1 | 16.100 | 2.340  | 0.000  | 0.000 |
| 150 | 0 | 0 | 0 | 0 | 0 | 1 | 16.100 | 4.680  | 0.000  | 0.000 |
| 151 | 0 | 0 | 0 | 0 | 0 | 1 | 16.100 | 7.020  | 0.000  | 0.000 |
| 152 | 0 | 0 | 0 | 0 | 0 | 1 | 16.100 | 9.522  | 0.000  | 0.000 |
| 153 | 0 | 0 | 0 | 0 | 0 | 1 | 16.100 | 11.287 | 0.000  | 0.000 |
| 154 | 0 | 0 | 0 | 0 | 0 | 1 | 16.100 | 13.790 | 0.000  | 0.000 |
| 155 | 0 | 0 | 0 | 0 | 0 | 1 | 18.400 | 0.000  | 0.000  | 0.000 |
| 156 | 0 | 0 | 0 | 0 | 0 | 1 | 18.400 | 2.340  | 0.000  | 0.000 |
| 157 | 0 | 0 | 0 | 0 | 0 | 1 | 18.400 | 4.680  | 0.000  | 0.000 |
| 158 | 0 | 0 | 0 | 0 | 0 | 1 | 18.400 | 7.020  | 0.000  | 0.000 |
| 159 | 0 | 0 | 0 | 0 | 0 | 1 | 18.400 | 9.522  | 0.000  | 0.000 |
| 160 | 0 | 0 | 0 | 0 | 0 | 1 | 18.400 | 11.287 | 0.000  | 0.000 |
| 161 | 0 | 0 | 0 | 0 | 0 | 1 | 18.400 | 13.790 | 0.000  | 0.000 |
| 162 | 0 | 0 | 0 | 0 | 0 | 1 | 20.700 | 0.000  | 0.000  | 0.000 |
| 163 | 0 | 0 | 0 | 0 | 0 | 1 | 20.700 | 2.340  | 0.000  | 0.000 |
| 164 | 0 | 0 | 0 | 0 | 0 | 1 | 20.700 | 4.680  | 0.000  | 0.000 |
| 165 | 0 | 0 | 0 | 0 | 0 | 1 | 20.700 | 7.020  | 0.000  | 0.000 |
| 166 | 0 | 0 | 0 | 0 | 0 | 1 | 20.700 | 9.522  | 0.000  | 0.000 |
| 167 | 0 | 0 | 0 | 0 | 0 | 1 | 20.700 | 11.287 | 0.000  | 0.000 |
| 168 | 0 | 0 | 0 | 0 | 0 | 1 | 20.700 | 13.790 | 0.000  | 0.000 |
| 169 | 1 | 1 | 1 | 1 | 1 | 1 | 0.000  | 0.000  | -1.000 | 0.000 |
| 170 | 1 | 1 | 1 | 1 | 1 | 1 | 6.900  | 0.000  | -1.000 | 0.000 |
| 171 | 1 | 1 | 1 | 1 | 1 | 1 | 13.800 | 0.000  | -1.000 | 0.000 |
| 172 | 1 | 1 | 1 | 1 | 1 | 1 | 20.700 | 0.000  | -1.000 | 0.000 |
| 173 | 1 | 1 | 1 | 1 | 1 | 1 | 0.000  | 7.020  | -1.000 | 0.000 |
| 174 | 1 | 1 | 1 | 1 | 1 | 1 | 6.900  | 7.020  | -1.000 | 0.000 |
| 175 | 1 | 1 | 1 | 1 | 1 | 1 | 13.800 | 7.020  | -1.000 | 0.000 |
| 176 | 1 | 1 | 1 | 1 | 1 | 1 | 20.700 | 7.020  | -1.000 | 0.000 |
| 177 | 1 | 1 | 1 | 1 | 1 | 1 | 0.000  | 13.790 | -1.000 | 0.000 |

|     |   |   |   |   |   |   |        |        |        |       |
|-----|---|---|---|---|---|---|--------|--------|--------|-------|
| 178 | 1 | 1 | 1 | 1 | 1 | 1 | 6.900  | 13.790 | -1.000 | 0.000 |
| 179 | 1 | 1 | 1 | 1 | 1 | 1 | 13.800 | 13.790 | -1.000 | 0.000 |
| 180 | 1 | 1 | 1 | 1 | 1 | 1 | 20.700 | 13.790 | -1.000 | 0.000 |
| 181 | 1 | 1 | 1 | 1 | 1 | 1 | 0.000  | -1.000 | 0.000  | 0.000 |
| 182 | 1 | 1 | 1 | 1 | 1 | 1 | -1.000 | 0.000  | 0.000  | 0.000 |
| 183 | 1 | 1 | 1 | 1 | 1 | 1 | -1.000 | 13.790 | 0.000  | 0.000 |



## EQUATION NUMBERS

| N  | X   | Y   | Z   | XX  | YY  | ZZ |
|----|-----|-----|-----|-----|-----|----|
| 1  | 1   | 2   | 3   | 4   | 5   | 0  |
| 2  | 6   | 7   | 8   | 9   | 10  | 0  |
| 3  | 11  | 12  | 13  | 14  | 15  | 0  |
| 4  | 16  | 17  | 18  | 19  | 20  | 0  |
| 5  | 21  | 22  | 23  | 24  | 25  | 0  |
| 6  | 26  | 27  | 28  | 29  | 30  | 0  |
| 7  | 31  | 32  | 33  | 34  | 35  | 0  |
| 8  | 36  | 37  | 38  | 39  | 40  | 0  |
| 9  | 41  | 42  | 43  | 44  | 45  | 0  |
| 10 | 46  | 47  | 48  | 49  | 50  | 0  |
| 11 | 51  | 52  | 53  | 54  | 55  | 0  |
| 12 | 56  | 57  | 58  | 59  | 60  | 0  |
| 13 | 61  | 62  | 63  | 64  | 65  | 0  |
| 14 | 66  | 67  | 68  | 69  | 70  | 0  |
| 15 | 71  | 72  | 73  | 74  | 75  | 0  |
| 16 | 76  | 77  | 78  | 79  | 80  | 0  |
| 17 | 81  | 82  | 83  | 84  | 85  | 0  |
| 18 | 86  | 87  | 88  | 89  | 90  | 0  |
| 19 | 91  | 92  | 93  | 94  | 95  | 0  |
| 20 | 96  | 97  | 98  | 99  | 100 | 0  |
| 21 | 101 | 102 | 103 | 104 | 105 | 0  |
| 22 | 106 | 107 | 108 | 109 | 110 | 0  |
| 23 | 111 | 112 | 113 | 114 | 115 | 0  |
| 24 | 116 | 117 | 118 | 119 | 120 | 0  |
| 25 | 121 | 122 | 123 | 124 | 125 | 0  |
| 26 | 126 | 127 | 128 | 129 | 130 | 0  |
| 27 | 131 | 132 | 133 | 134 | 135 | 0  |
| 28 | 136 | 137 | 138 | 139 | 140 | 0  |
| 29 | 141 | 142 | 143 | 144 | 145 | 0  |
| 30 | 146 | 147 | 148 | 149 | 150 | 0  |
| 31 | 151 | 152 | 153 | 154 | 155 | 0  |
| 32 | 156 | 157 | 158 | 159 | 160 | 0  |
| 33 | 161 | 162 | 163 | 164 | 165 | 0  |
| 34 | 166 | 167 | 168 | 169 | 170 | 0  |

|    |     |     |     |     |     |   |
|----|-----|-----|-----|-----|-----|---|
| 35 | 171 | 172 | 173 | 174 | 175 | 0 |
| 36 | 176 | 177 | 178 | 179 | 180 | 0 |
| 37 | 181 | 182 | 183 | 184 | 185 | 0 |
| 38 | 186 | 187 | 188 | 189 | 190 | 0 |
| 39 | 191 | 192 | 193 | 194 | 195 | 0 |
| 40 | 196 | 197 | 198 | 199 | 200 | 0 |
| 41 | 201 | 202 | 203 | 204 | 205 | 0 |
| 42 | 206 | 207 | 208 | 209 | 210 | 0 |
| 43 | 211 | 212 | 213 | 214 | 215 | 0 |
| 44 | 216 | 217 | 218 | 219 | 220 | 0 |
| 45 | 221 | 222 | 223 | 224 | 225 | 0 |
| 46 | 226 | 227 | 228 | 229 | 230 | 0 |
| 47 | 231 | 232 | 233 | 234 | 235 | 0 |
| 48 | 236 | 237 | 238 | 239 | 240 | 0 |
| 49 | 241 | 242 | 243 | 244 | 245 | 0 |
| 50 | 246 | 247 | 248 | 249 | 250 | 0 |
| 51 | 251 | 252 | 253 | 254 | 255 | 0 |
| 52 | 256 | 257 | 258 | 259 | 260 | 0 |
| 53 | 261 | 262 | 263 | 264 | 265 | 0 |
| 54 | 266 | 267 | 268 | 269 | 270 | 0 |
| 55 | 271 | 272 | 273 | 274 | 275 | 0 |
| 56 | 276 | 277 | 278 | 279 | 280 | 0 |
| 57 | 281 | 282 | 283 | 284 | 285 | 0 |
| 58 | 286 | 287 | 288 | 289 | 290 | 0 |
| 59 | 291 | 292 | 293 | 294 | 295 | 0 |
| 60 | 296 | 297 | 298 | 299 | 300 | 0 |
| 61 | 301 | 302 | 303 | 304 | 305 | 0 |
| 62 | 306 | 307 | 308 | 309 | 310 | 0 |
| 63 | 311 | 312 | 313 | 314 | 315 | 0 |
| 64 | 316 | 317 | 318 | 319 | 320 | 0 |
| 65 | 321 | 322 | 323 | 324 | 325 | 0 |
| 66 | 326 | 327 | 328 | 329 | 330 | 0 |
| 67 | 331 | 332 | 333 | 334 | 335 | 0 |
| 68 | 336 | 337 | 338 | 339 | 340 | 0 |
| 69 | 341 | 342 | 343 | 344 | 345 | 0 |
| 70 | 346 | 347 | 348 | 349 | 350 | 0 |

|     |     |     |     |     |     |   |
|-----|-----|-----|-----|-----|-----|---|
| 71  | 351 | 352 | 353 | 354 | 355 | 0 |
| 72  | 356 | 357 | 358 | 359 | 360 | 0 |
| 73  | 361 | 362 | 363 | 364 | 365 | 0 |
| 74  | 366 | 367 | 368 | 369 | 370 | 0 |
| 75  | 371 | 372 | 373 | 374 | 375 | 0 |
| 76  | 376 | 377 | 378 | 379 | 380 | 0 |
| 77  | 381 | 382 | 383 | 384 | 385 | 0 |
| 78  | 386 | 387 | 388 | 389 | 390 | 0 |
| 79  | 391 | 392 | 393 | 394 | 395 | 0 |
| 80  | 396 | 397 | 398 | 399 | 400 | 0 |
| 81  | 401 | 402 | 403 | 404 | 405 | 0 |
| 82  | 406 | 407 | 408 | 409 | 410 | 0 |
| 83  | 411 | 412 | 413 | 414 | 415 | 0 |
| 84  | 416 | 417 | 418 | 419 | 420 | 0 |
| 85  | 421 | 422 | 423 | 424 | 425 | 0 |
| 86  | 426 | 427 | 428 | 429 | 430 | 0 |
| 87  | 431 | 432 | 433 | 434 | 435 | 0 |
| 88  | 436 | 437 | 438 | 439 | 440 | 0 |
| 89  | 441 | 442 | 443 | 444 | 445 | 0 |
| 90  | 446 | 447 | 448 | 449 | 450 | 0 |
| 91  | 451 | 452 | 453 | 454 | 455 | 0 |
| 92  | 456 | 457 | 458 | 459 | 460 | 0 |
| 93  | 461 | 462 | 463 | 464 | 465 | 0 |
| 94  | 466 | 467 | 468 | 469 | 470 | 0 |
| 95  | 471 | 472 | 473 | 474 | 475 | 0 |
| 96  | 476 | 477 | 478 | 479 | 480 | 0 |
| 97  | 481 | 482 | 483 | 484 | 485 | 0 |
| 98  | 486 | 487 | 488 | 489 | 490 | 0 |
| 99  | 491 | 492 | 493 | 494 | 495 | 0 |
| 100 | 496 | 497 | 498 | 499 | 500 | 0 |
| 101 | 501 | 502 | 503 | 504 | 505 | 0 |
| 102 | 506 | 507 | 508 | 509 | 510 | 0 |
| 103 | 511 | 512 | 513 | 514 | 515 | 0 |
| 104 | 516 | 517 | 518 | 519 | 520 | 0 |
| 105 | 521 | 522 | 523 | 524 | 525 | 0 |
| 106 | 526 | 527 | 528 | 529 | 530 | 0 |

|     |     |     |     |     |     |   |
|-----|-----|-----|-----|-----|-----|---|
| 107 | 531 | 532 | 533 | 534 | 535 | 0 |
| 108 | 536 | 537 | 538 | 539 | 540 | 0 |
| 109 | 541 | 542 | 543 | 544 | 545 | 0 |
| 110 | 546 | 547 | 548 | 549 | 550 | 0 |
| 111 | 551 | 552 | 553 | 554 | 555 | 0 |
| 112 | 556 | 557 | 558 | 559 | 560 | 0 |
| 113 | 561 | 562 | 563 | 564 | 565 | 0 |
| 114 | 566 | 567 | 568 | 569 | 570 | 0 |
| 115 | 571 | 572 | 573 | 574 | 575 | 0 |
| 116 | 576 | 577 | 578 | 579 | 580 | 0 |
| 117 | 581 | 582 | 583 | 584 | 585 | 0 |
| 118 | 586 | 587 | 588 | 589 | 590 | 0 |
| 119 | 591 | 592 | 593 | 594 | 595 | 0 |
| 120 | 596 | 597 | 598 | 599 | 600 | 0 |
| 121 | 601 | 602 | 603 | 604 | 605 | 0 |
| 122 | 606 | 607 | 608 | 609 | 610 | 0 |
| 123 | 611 | 612 | 613 | 614 | 615 | 0 |
| 124 | 616 | 617 | 618 | 619 | 620 | 0 |
| 125 | 621 | 622 | 623 | 624 | 625 | 0 |
| 126 | 626 | 627 | 628 | 629 | 630 | 0 |
| 127 | 631 | 632 | 633 | 634 | 635 | 0 |
| 128 | 636 | 637 | 638 | 639 | 640 | 0 |
| 129 | 641 | 642 | 643 | 644 | 645 | 0 |
| 130 | 646 | 647 | 648 | 649 | 650 | 0 |
| 131 | 651 | 652 | 653 | 654 | 655 | 0 |
| 132 | 656 | 657 | 658 | 659 | 660 | 0 |
| 133 | 661 | 662 | 663 | 664 | 665 | 0 |
| 134 | 666 | 667 | 668 | 669 | 670 | 0 |
| 135 | 671 | 672 | 673 | 674 | 675 | 0 |
| 136 | 676 | 677 | 678 | 679 | 680 | 0 |
| 137 | 681 | 682 | 683 | 684 | 685 | 0 |
| 138 | 686 | 687 | 688 | 689 | 690 | 0 |
| 139 | 691 | 692 | 693 | 694 | 695 | 0 |
| 140 | 696 | 697 | 698 | 699 | 700 | 0 |
| 141 | 701 | 702 | 703 | 704 | 705 | 0 |
| 142 | 706 | 707 | 708 | 709 | 710 | 0 |

|     |     |     |     |     |     |   |
|-----|-----|-----|-----|-----|-----|---|
| 143 | 711 | 712 | 713 | 714 | 715 | 0 |
| 144 | 716 | 717 | 718 | 719 | 720 | 0 |
| 145 | 721 | 722 | 723 | 724 | 725 | 0 |
| 146 | 726 | 727 | 728 | 729 | 730 | 0 |
| 147 | 731 | 732 | 733 | 734 | 735 | 0 |
| 148 | 736 | 737 | 738 | 739 | 740 | 0 |
| 149 | 741 | 742 | 743 | 744 | 745 | 0 |
| 150 | 746 | 747 | 748 | 749 | 750 | 0 |
| 151 | 751 | 752 | 753 | 754 | 755 | 0 |
| 152 | 756 | 757 | 758 | 759 | 760 | 0 |
| 153 | 761 | 762 | 763 | 764 | 765 | 0 |
| 154 | 766 | 767 | 768 | 769 | 770 | 0 |
| 155 | 771 | 772 | 773 | 774 | 775 | 0 |
| 156 | 776 | 777 | 778 | 779 | 780 | 0 |
| 157 | 781 | 782 | 783 | 784 | 785 | 0 |
| 158 | 786 | 787 | 788 | 789 | 790 | 0 |
| 159 | 791 | 792 | 793 | 794 | 795 | 0 |
| 160 | 796 | 797 | 798 | 799 | 800 | 0 |
| 161 | 801 | 802 | 803 | 804 | 805 | 0 |
| 162 | 806 | 807 | 808 | 809 | 810 | 0 |
| 163 | 811 | 812 | 813 | 814 | 815 | 0 |
| 164 | 816 | 817 | 818 | 819 | 820 | 0 |
| 165 | 821 | 822 | 823 | 824 | 825 | 0 |
| 166 | 826 | 827 | 828 | 829 | 830 | 0 |
| 167 | 831 | 832 | 833 | 834 | 835 | 0 |
| 168 | 836 | 837 | 838 | 839 | 840 | 0 |
| 169 | 0   | 0   | 0   | 0   | 0   | 0 |
| 170 | 0   | 0   | 0   | 0   | 0   | 0 |
| 171 | 0   | 0   | 0   | 0   | 0   | 0 |
| 172 | 0   | 0   | 0   | 0   | 0   | 0 |
| 173 | 0   | 0   | 0   | 0   | 0   | 0 |
| 174 | 0   | 0   | 0   | 0   | 0   | 0 |
| 175 | 0   | 0   | 0   | 0   | 0   | 0 |
| 176 | 0   | 0   | 0   | 0   | 0   | 0 |
| 177 | 0   | 0   | 0   | 0   | 0   | 0 |
| 178 | 0   | 0   | 0   | 0   | 0   | 0 |

|     |   |   |   |   |   |   |
|-----|---|---|---|---|---|---|
| 179 | 0 | 0 | 0 | 0 | 0 | 0 |
| 180 | 0 | 0 | 0 | 0 | 0 | 0 |
| 181 | 0 | 0 | 0 | 0 | 0 | 0 |
| 182 | 0 | 0 | 0 | 0 | 0 | 0 |
| 183 | 0 | 0 | 0 | 0 | 0 | 0 |

T H I N P L A T E / S H E L L E L E M E N T S

ELEMENT TYPE = 6  
 NUMBER OF ELEMENTS = 159  
 NUMBER OF MATERIALS = 1

MATERIAL PROPERTY TABLE

| MATERIAL | MASS      | THERMAL   | EXPANSION | COEFFICIENTS | / / E L A S T I C C O N S T A N |           |           |           |        |
|----------|-----------|-----------|-----------|--------------|---------------------------------|-----------|-----------|-----------|--------|
| T S / /  | DENSITY   | ALPHA(X)  | ALPHA(Y)  | ALPHA(Z)     | C(XX)                           | C(XY)     | C(XG)     | C(YY)     | C(Y    |
| G) G(XY) |           |           |           |              |                                 |           |           |           |        |
| 1        | 0.250E 02 | 0.000E 00 | 0.000E 00 | 0.000E 00    | 0.313E 08                       | 0.625E 07 | 0.000E 00 | 0.313E 08 | 0.000E |
| 00       | 0.125E 08 |           |           |              |                                 |           |           |           |        |

ELEMENT LOAD CASE MULTIPLIERS

| ELEMENT LOAD<br>CASE NUMBER | PRESSURE | THERMAL<br>EFFECTS | X-<br>ACCELERATION | Y-<br>ACCELERATION | Z-<br>ACCELERATION |
|-----------------------------|----------|--------------------|--------------------|--------------------|--------------------|
| 1                           | -1.000   | 0.000              | 0.000              | 0.000              | 0.000              |
| 2                           | 0.000    | 0.000              | 0.000              | 0.000              | -1.000             |
| 3                           | 0.000    | 0.000              | 0.000              | 0.000              | 0.000              |
| 4                           | 0.000    | 0.000              | 0.000              | 0.000              | 0.000              |



## THIN PLATE/SHELL ELEMENT DATA

| ELEMENT<br>NUMBER | NODE-I | NODE-J | NODE-K | NODE-L | NODE-O | MATERIAL<br>NUMBER | AVERAGE<br>THICKNESS | NORMAL<br>PRESSURE | TEMPERATURE<br>DIFFERENCE | THERMAL<br>GRADIENT |
|-------------------|--------|--------|--------|--------|--------|--------------------|----------------------|--------------------|---------------------------|---------------------|
| 1                 | 24     | 25     | 14     | 13     | 0      | 1                  | 0.2600               | 0.0                | 0.00                      | 0.000               |
| 2                 | 23     | 24     | 13     | 12     | 0      | 1                  | 0.2600               | 0.0                | 0.00                      | 0.000               |
| 3                 | 22     | 23     | 12     | 11     | 0      | 1                  | 0.2600               | 0.0                | 0.00                      | 0.000               |
| 4                 | 21     | 22     | 11     | 10     | 0      | 1                  | 0.2600               | 0.0                | 0.00                      | 0.000               |
| 5                 | 20     | 21     | 10     | 9      | 0      | 1                  | 0.2600               | 0.0                | 0.00                      | 0.000               |
| 6                 | 19     | 20     | 9      | 8      | 0      | 1                  | 0.2600               | 0.0                | 0.00                      | 0.000               |
| 7                 | 18     | 19     | 8      | 7      | 0      | 1                  | 0.2600               | 0.0                | 0.00                      | 0.000               |
| 8                 | 17     | 18     | 7      | 6      | 0      | 1                  | 0.2600               | 0.0                | 0.00                      | 0.000               |
| 9                 | 16     | 17     | 6      | 5      | 0      | 1                  | 0.2600               | 0.0                | 0.00                      | 0.000               |
| 10                | 34     | 35     | 25     | 24     | 0      | 1                  | 0.2600               | 0.0                | 0.00                      | 0.000               |
| 11                | 33     | 34     | 24     | 23     | 0      | 1                  | 0.2600               | 0.0                | 0.00                      | 0.000               |
| 12                | 32     | 33     | 23     | 22     | 0      | 1                  | 0.2600               | 0.0                | 0.00                      | 0.000               |
| 13                | 31     | 32     | 22     | 21     | 0      | 1                  | 0.2600               | 0.0                | 0.00                      | 0.000               |
| 14                | 30     | 31     | 21     | 20     | 0      | 1                  | 0.2600               | 0.0                | 0.00                      | 0.000               |
| 15                | 29     | 30     | 20     | 19     | 0      | 1                  | 0.2600               | 0.0                | 0.00                      | 0.000               |
| 16                | 28     | 29     | 19     | 18     | 0      | 1                  | 0.2600               | 0.0                | 0.00                      | 0.000               |
| 17                | 27     | 28     | 18     | 17     | 0      | 1                  | 0.2600               | 0.0                | 0.00                      | 0.000               |
| 18                | 26     | 27     | 17     | 16     | 0      | 1                  | 0.2600               | 0.0                | 0.00                      | 0.000               |
| 19                | 48     | 49     | 35     | 34     | 0      | 1                  | 0.2600               | 0.0                | 0.00                      | 0.000               |
| 20                | 47     | 48     | 34     | 33     | 0      | 1                  | 0.2600               | 0.0                | 0.00                      | 0.000               |
| 21                | 46     | 47     | 33     | 32     | 0      | 1                  | 0.2600               | 0.0                | 0.00                      | 0.000               |
| 22                | 45     | 46     | 32     | 31     | 0      | 1                  | 0.2600               | 45.0               | 0.00                      | 0.000               |
| 23                | 44     | 45     | 31     | 30     | 0      | 1                  | 0.2600               | 45.0               | 0.00                      | 0.000               |
| 24                | 43     | 44     | 30     | 29     | 0      | 1                  | 0.2600               | 45.0               | 0.00                      | 0.000               |
| 25                | 42     | 43     | 29     | 28     | 0      | 1                  | 0.2600               | 45.0               | 0.00                      | 0.000               |
| 26                | 41     | 42     | 28     | 27     | 0      | 1                  | 0.2600               | 45.0               | 0.00                      | 0.000               |
| 27                | 40     | 41     | 27     | 26     | 0      | 1                  | 0.2600               | 0.0                | 0.00                      | 0.000               |
| 28                | 59     | 60     | 49     | 48     | 0      | 1                  | 0.2600               | 0.0                | 0.00                      | 0.000               |
| 29                | 58     | 59     | 48     | 47     | 0      | 1                  | 0.2600               | 0.0                | 0.00                      | 0.000               |
| 30                | 57     | 58     | 47     | 46     | 0      | 1                  | 0.2600               | 0.0                | 0.00                      | 0.000               |
| 31                | 56     | 57     | 46     | 45     | 0      | 1                  | 0.2600               | 45.0               | 0.00                      | 0.000               |
|                   |        |        |        |        |        | 1                  | 0.2600               | 45.0               | 0.00                      | 0.000               |

|    |     |     |    |    |   |   |        |      |      |       |
|----|-----|-----|----|----|---|---|--------|------|------|-------|
| 32 | 55  | 56  | 45 | 44 | 0 | 1 | 0.2600 | 45.0 | 0.00 | 0.000 |
| 33 | 54  | 55  | 44 | 43 | 0 | 1 | 0.2600 | 45.0 | 0.00 | 0.000 |
| 34 | 53  | 54  | 43 | 42 | 0 | 1 | 0.2600 | 45.0 | 0.00 | 0.000 |
| 35 | 52  | 53  | 42 | 41 | 0 | 1 | 0.2600 | 0.0  | 0.00 | 0.000 |
| 36 | 51  | 52  | 41 | 40 | 0 | 1 | 0.2600 | 0.0  | 0.00 | 0.000 |
| 37 | 69  | 70  | 60 | 59 | 0 | 1 | 0.2600 | 0.0  | 0.00 | 0.000 |
| 38 | 68  | 69  | 59 | 58 | 0 | 1 | 0.2600 | 0.0  | 0.00 | 0.000 |
| 39 | 67  | 68  | 58 | 57 | 0 | 1 | 0.2600 | 45.0 | 0.00 | 0.000 |
| 40 | 66  | 67  | 57 | 56 | 0 | 1 | 0.2600 | 45.0 | 0.00 | 0.000 |
| 41 | 65  | 66  | 56 | 55 | 0 | 1 | 0.2600 | 45.0 | 0.00 | 0.000 |
| 42 | 64  | 65  | 55 | 54 | 0 | 1 | 0.2600 | 45.0 | 0.00 | 0.000 |
| 43 | 63  | 64  | 54 | 53 | 0 | 1 | 0.2600 | 45.0 | 0.00 | 0.000 |
| 44 | 62  | 63  | 53 | 52 | 0 | 1 | 0.2600 | 0.0  | 0.00 | 0.000 |
| 45 | 61  | 62  | 52 | 51 | 0 | 1 | 0.2600 | 0.0  | 0.00 | 0.000 |
| 46 | 83  | 84  | 70 | 69 | 0 | 1 | 0.2600 | 0.0  | 0.00 | 0.000 |
| 47 | 82  | 83  | 69 | 68 | 0 | 1 | 0.2600 | 0.0  | 0.00 | 0.000 |
| 48 | 81  | 82  | 68 | 67 | 0 | 1 | 0.2600 | 45.0 | 0.00 | 0.000 |
| 49 | 80  | 81  | 67 | 66 | 0 | 1 | 0.2600 | 45.0 | 0.00 | 0.000 |
| 50 | 79  | 80  | 66 | 65 | 0 | 1 | 0.2600 | 45.0 | 0.00 | 0.000 |
| 51 | 78  | 79  | 65 | 64 | 0 | 1 | 0.2600 | 45.0 | 0.00 | 0.000 |
| 52 | 77  | 78  | 64 | 63 | 0 | 1 | 0.2600 | 45.0 | 0.00 | 0.000 |
| 53 | 76  | 77  | 63 | 62 | 0 | 1 | 0.2600 | 0.0  | 0.00 | 0.000 |
| 54 | 75  | 76  | 62 | 61 | 0 | 1 | 0.2600 | 0.0  | 0.00 | 0.000 |
| 55 | 94  | 95  | 84 | 83 | 0 | 1 | 0.2600 | 0.0  | 0.00 | 0.000 |
| 56 | 93  | 94  | 83 | 82 | 0 | 1 | 0.2600 | 0.0  | 0.00 | 0.000 |
| 57 | 92  | 93  | 82 | 81 | 0 | 1 | 0.2600 | 45.0 | 0.00 | 0.000 |
| 58 | 91  | 92  | 81 | 80 | 0 | 1 | 0.2600 | 45.0 | 0.00 | 0.000 |
| 59 | 90  | 91  | 80 | 79 | 0 | 1 | 0.2600 | 45.0 | 0.00 | 0.000 |
| 60 | 89  | 90  | 79 | 78 | 0 | 1 | 0.2600 | 45.0 | 0.00 | 0.000 |
| 61 | 88  | 89  | 78 | 77 | 0 | 1 | 0.2600 | 45.0 | 0.00 | 0.000 |
| 62 | 87  | 88  | 77 | 76 | 0 | 1 | 0.2600 | 0.0  | 0.00 | 0.000 |
| 63 | 86  | 87  | 76 | 75 | 0 | 1 | 0.2600 | 0.0  | 0.00 | 0.000 |
| 64 | 104 | 105 | 95 | 94 | 0 | 1 | 0.2600 | 0.0  | 0.00 | 0.000 |
| 65 | 103 | 104 | 94 | 93 | 0 | 1 | 0.2600 | 0.0  | 0.00 | 0.000 |
| 66 | 102 | 103 | 93 | 92 | 0 | 1 | 0.2600 | 0.0  | 0.00 | 0.000 |
| 67 | 101 | 102 | 92 | 91 | 0 | 1 | 0.2600 | 0.0  | 0.00 | 0.000 |

|     |     |     |     |     |   |   |        |     |      |       |
|-----|-----|-----|-----|-----|---|---|--------|-----|------|-------|
| 68  | 100 | 101 | 91  | 90  | 0 | 1 | 0.2600 | 0.0 | 0.00 | 0.000 |
| 69  | 99  | 100 | 90  | 89  | 0 | 1 | 0.2600 | 0.0 | 0.00 | 0.000 |
| 70  | 98  | 99  | 89  | 88  | 0 | 1 | 0.2600 | 0.0 | 0.00 | 0.000 |
| 71  | 97  | 98  | 88  | 87  | 0 | 1 | 0.2600 | 0.0 | 0.00 | 0.000 |
| 72  | 96  | 97  | 87  | 86  | 0 | 1 | 0.2600 | 0.0 | 0.00 | 0.000 |
| 73  | 118 | 119 | 105 | 104 | 0 | 1 | 0.2600 | 0.0 | 0.00 | 0.000 |
| 74  | 117 | 118 | 104 | 103 | 0 | 1 | 0.2600 | 0.0 | 0.00 | 0.000 |
| 75  | 116 | 117 | 103 | 102 | 0 | 1 | 0.2600 | 0.0 | 0.00 | 0.000 |
| 76  | 115 | 116 | 102 | 101 | 0 | 1 | 0.2600 | 0.0 | 0.00 | 0.000 |
| 77  | 114 | 115 | 101 | 100 | 0 | 1 | 0.2600 | 0.0 | 0.00 | 0.000 |
| 78  | 113 | 114 | 100 | 99  | 0 | 1 | 0.2600 | 0.0 | 0.00 | 0.000 |
| 79  | 112 | 113 | 99  | 98  | 0 | 1 | 0.2600 | 0.0 | 0.00 | 0.000 |
| 80  | 111 | 112 | 98  | 97  | 0 | 1 | 0.2600 | 0.0 | 0.00 | 0.000 |
| 81  | 110 | 111 | 97  | 96  | 0 | 1 | 0.2600 | 0.0 | 0.00 | 0.000 |
| 82  | 15  | 16  | 5   | 4   | 0 | 1 | 0.2600 | 0.0 | 0.00 | 0.000 |
| 83  | 3   | 15  | 4   | 0   | 0 | 1 | 0.2600 | 0.0 | 0.00 | 0.000 |
| 84  | 15  | 26  | 16  | 0   | 0 | 1 | 0.2600 | 0.0 | 0.00 | 0.000 |
| 85  | 3   | 38  | 15  | 0   | 0 | 1 | 0.2600 | 0.0 | 0.00 | 0.000 |
| 86  | 39  | 40  | 26  | 15  | 0 | 1 | 0.2600 | 0.0 | 0.00 | 0.000 |
| 87  | 38  | 39  | 15  | 0   | 0 | 1 | 0.2600 | 0.0 | 0.00 | 0.000 |
| 88  | 37  | 38  | 3   | 2   | 0 | 1 | 0.2600 | 0.0 | 0.00 | 0.000 |
| 89  | 36  | 37  | 2   | 1   | 0 | 1 | 0.2600 | 0.0 | 0.00 | 0.000 |
| 90  | 50  | 51  | 40  | 39  | 0 | 1 | 0.2600 | 0.0 | 0.00 | 0.000 |
| 91  | 38  | 50  | 39  | 0   | 0 | 1 | 0.2600 | 0.0 | 0.00 | 0.000 |
| 92  | 50  | 61  | 51  | 0   | 0 | 1 | 0.2600 | 0.0 | 0.00 | 0.000 |
| 93  | 38  | 73  | 50  | 0   | 0 | 1 | 0.2600 | 0.0 | 0.00 | 0.000 |
| 94  | 74  | 75  | 61  | 50  | 0 | 1 | 0.2600 | 0.0 | 0.00 | 0.000 |
| 95  | 73  | 74  | 50  | 0   | 0 | 1 | 0.2600 | 0.0 | 0.00 | 0.000 |
| 96  | 72  | 73  | 38  | 37  | 0 | 1 | 0.2600 | 0.0 | 0.00 | 0.000 |
| 97  | 71  | 72  | 37  | 36  | 0 | 1 | 0.2600 | 0.0 | 0.00 | 0.000 |
| 98  | 85  | 86  | 75  | 74  | 0 | 1 | 0.2600 | 0.0 | 0.00 | 0.000 |
| 99  | 73  | 85  | 74  | 0   | 0 | 1 | 0.2600 | 0.0 | 0.00 | 0.000 |
| 100 | 85  | 96  | 86  | 0   | 0 | 1 | 0.2600 | 0.0 | 0.00 | 0.000 |
| 101 | 73  | 108 | 85  | 0   | 0 | 1 | 0.2600 | 0.0 | 0.00 | 0.000 |
| 102 | 109 | 110 | 96  | 85  | 0 | 1 | 0.2600 | 0.0 | 0.00 | 0.000 |
| 103 | 108 | 109 | 85  | 0   | 0 | 1 | 0.2600 | 0.0 | 0.00 | 0.000 |

|     |     |     |     |     |   |   |        |     |      |       |
|-----|-----|-----|-----|-----|---|---|--------|-----|------|-------|
| 104 | 107 | 108 | 73  | 72  | 0 | 1 | 0.2600 | 0.0 | 0.00 | 0.000 |
| 105 | 106 | 107 | 72  | 71  | 0 | 1 | 0.2600 | 0.0 | 0.00 | 0.000 |
| 106 | 125 | 126 | 119 | 118 | 0 | 1 | 0.2600 | 0.0 | 0.00 | 0.000 |
| 107 | 125 | 133 | 126 | 0   | 0 | 1 | 0.2600 | 0.0 | 0.00 | 0.000 |
| 108 | 117 | 125 | 118 | 0   | 0 | 1 | 0.2600 | 0.0 | 0.00 | 0.000 |
| 109 | 132 | 133 | 125 | 0   | 0 | 1 | 0.2600 | 0.0 | 0.00 | 0.000 |
| 110 | 124 | 125 | 117 | 116 | 0 | 1 | 0.2600 | 0.0 | 0.00 | 0.000 |
| 111 | 132 | 125 | 124 | 0   | 0 | 1 | 0.2600 | 0.0 | 0.00 | 0.000 |
| 112 | 123 | 124 | 116 | 115 | 0 | 1 | 0.2600 | 0.0 | 0.00 | 0.000 |
| 113 | 123 | 132 | 124 | 0   | 0 | 1 | 0.2600 | 0.0 | 0.00 | 0.000 |
| 114 | 114 | 123 | 115 | 0   | 0 | 1 | 0.2600 | 0.0 | 0.00 | 0.000 |
| 115 | 131 | 132 | 123 | 0   | 0 | 1 | 0.2600 | 0.0 | 0.00 | 0.000 |
| 116 | 122 | 123 | 114 | 113 | 0 | 1 | 0.2600 | 0.0 | 0.00 | 0.000 |
| 117 | 131 | 123 | 122 | 0   | 0 | 1 | 0.2600 | 0.0 | 0.00 | 0.000 |
| 118 | 121 | 122 | 113 | 112 | 0 | 1 | 0.2600 | 0.0 | 0.00 | 0.000 |
| 119 | 121 | 131 | 122 | 0   | 0 | 1 | 0.2600 | 0.0 | 0.00 | 0.000 |
| 120 | 121 | 112 | 111 | 0   | 0 | 1 | 0.2600 | 0.0 | 0.00 | 0.000 |
| 121 | 130 | 131 | 121 | 0   | 0 | 1 | 0.2600 | 0.0 | 0.00 | 0.000 |
| 122 | 120 | 121 | 111 | 110 | 0 | 1 | 0.2600 | 0.0 | 0.00 | 0.000 |
| 123 | 130 | 121 | 120 | 0   | 0 | 1 | 0.2600 | 0.0 | 0.00 | 0.000 |
| 124 | 109 | 120 | 110 | 0   | 0 | 1 | 0.2600 | 0.0 | 0.00 | 0.000 |
| 125 | 109 | 129 | 120 | 0   | 0 | 1 | 0.2600 | 0.0 | 0.00 | 0.000 |
| 126 | 129 | 130 | 120 | 0   | 0 | 1 | 0.2600 | 0.0 | 0.00 | 0.000 |
| 127 | 129 | 109 | 108 | 0   | 0 | 1 | 0.2600 | 0.0 | 0.00 | 0.000 |
| 128 | 128 | 129 | 108 | 107 | 0 | 1 | 0.2600 | 0.0 | 0.00 | 0.000 |
| 129 | 127 | 128 | 107 | 106 | 0 | 1 | 0.2600 | 0.0 | 0.00 | 0.000 |
| 130 | 139 | 140 | 133 | 132 | 0 | 1 | 0.2600 | 0.0 | 0.00 | 0.000 |
| 131 | 138 | 139 | 132 | 131 | 0 | 1 | 0.2600 | 0.0 | 0.00 | 0.000 |
| 132 | 137 | 138 | 131 | 130 | 0 | 1 | 0.2600 | 0.0 | 0.00 | 0.000 |
| 133 | 136 | 137 | 130 | 129 | 0 | 1 | 0.2600 | 0.0 | 0.00 | 0.000 |
| 134 | 135 | 136 | 129 | 128 | 0 | 1 | 0.2600 | 0.0 | 0.00 | 0.000 |
| 135 | 134 | 135 | 128 | 127 | 0 | 1 | 0.2600 | 0.0 | 0.00 | 0.000 |
| 136 | 146 | 147 | 140 | 139 | 0 | 1 | 0.2600 | 0.0 | 0.00 | 0.000 |
| 137 | 145 | 146 | 139 | 138 | 0 | 1 | 0.2600 | 0.0 | 0.00 | 0.000 |
| 138 | 144 | 145 | 138 | 137 | 0 | 1 | 0.2600 | 0.0 | 0.00 | 0.000 |
| 139 | 143 | 144 | 137 | 136 | 0 | 1 | 0.2600 | 0.0 | 0.00 | 0.000 |

|     |     |     |     |     |   |   |        |     |      |       |
|-----|-----|-----|-----|-----|---|---|--------|-----|------|-------|
| 140 | 142 | 143 | 136 | 135 | 0 | 1 | 0.2600 | 0.0 | 0.00 | 0.000 |
| 141 | 141 | 142 | 135 | 134 | 0 | 1 | 0.2600 | 0.0 | 0.00 | 0.000 |
| 142 | 153 | 154 | 147 | 146 | 0 | 1 | 0.2600 | 0.0 | 0.00 | 0.000 |
| 143 | 152 | 153 | 146 | 145 | 0 | 1 | 0.2600 | 0.0 | 0.00 | 0.000 |
| 144 | 151 | 152 | 145 | 144 | 0 | 1 | 0.2600 | 0.0 | 0.00 | 0.000 |
| 145 | 150 | 151 | 144 | 143 | 0 | 1 | 0.2600 | 0.0 | 0.00 | 0.000 |
| 146 | 149 | 150 | 143 | 142 | 0 | 1 | 0.2600 | 0.0 | 0.00 | 0.000 |
| 147 | 148 | 149 | 142 | 141 | 0 | 1 | 0.2600 | 0.0 | 0.00 | 0.000 |
| 148 | 160 | 161 | 154 | 153 | 0 | 1 | 0.2600 | 0.0 | 0.00 | 0.000 |
| 149 | 159 | 160 | 153 | 152 | 0 | 1 | 0.2600 | 0.0 | 0.00 | 0.000 |
| 150 | 158 | 159 | 152 | 151 | 0 | 1 | 0.2600 | 0.0 | 0.00 | 0.000 |
| 151 | 157 | 158 | 151 | 150 | 0 | 1 | 0.2600 | 0.0 | 0.00 | 0.000 |
| 152 | 156 | 157 | 150 | 149 | 0 | 1 | 0.2600 | 0.0 | 0.00 | 0.000 |
| 153 | 155 | 156 | 149 | 148 | 0 | 1 | 0.2600 | 0.0 | 0.00 | 0.000 |
| 154 | 167 | 168 | 161 | 160 | 0 | 1 | 0.2600 | 0.0 | 0.00 | 0.000 |
| 155 | 166 | 167 | 160 | 159 | 0 | 1 | 0.2600 | 0.0 | 0.00 | 0.000 |
| 156 | 165 | 166 | 159 | 158 | 0 | 1 | 0.2600 | 0.0 | 0.00 | 0.000 |
| 157 | 164 | 165 | 158 | 157 | 0 | 1 | 0.2600 | 0.0 | 0.00 | 0.000 |
| 158 | 163 | 164 | 157 | 156 | 0 | 1 | 0.2600 | 0.0 | 0.00 | 0.000 |
| 159 | 162 | 163 | 156 | 155 | 0 | 1 | 0.2600 | 0.0 | 0.00 | 0.000 |

BOUNDARY ELEMENTS

ELEMENT TYPE = 7  
NUMBER OF ELEMENTS = 15

ELEMENT LOAD CASE MULTIPLIERS

|         |         |         |         |
|---------|---------|---------|---------|
| CASE(A) | CASE(B) | CASE(C) | CASE(D) |
| 1.0000  | 0.0000  | 0.0000  | 0.0000  |

| ELEMENT<br>D<br>N | NODE<br>SPRING<br>NUMBER<br>(N)<br>RATE | NODES DEFINING<br>(NI) | CONSTRAINT<br>(NJ) | DIRECTION<br>(NK) | (NL) | CODE<br>KD | CODE<br>KR | GENERATION<br>CODE (KN) | SPECIFIED<br>DISPLACEMENT | SPECIFIED<br>ROTATION |
|-------------------|---|------------------------|--------------------|-------------------|------|------------|------------|-------------------------|---------------------------|-----------------------|
| 0                 | 1 1<br>0.1000E 11                       | 169                    | 0                  | 0                 | 0    | 1          | 0          | 0                       | 0.0000E 00                | 0.0000E 0             |
| 0                 | 2 106<br>0.1000E 11                     | 170                    | 0                  | 0                 | 0    | 1          | 0          | 0                       | 0.0000E 00                | 0.0000E 0             |
| 0                 | 3 141<br>0.1000E 11                     | 171                    | 0                  | 0                 | 0    | 1          | 0          | 0                       | 0.0000E 00                | 0.0000E 0             |
| 0                 | 4 162<br>0.1000E 11                     | 172                    | 0                  | 0                 | 0    | 1          | 0          | 0                       | 0.0000E 00                | 0.0000E 0             |
| 0                 | 5 5<br>0.1000E 11                       | 173                    | 0                  | 0                 | 0    | 1          | 0          | 0                       | 0.0000E 00                | 0.0000E 0             |
| 0                 | 6 110<br>0.1000E 11                     | 174                    | 0                  | 0                 | 0    | 1          | 0          | 0                       | 0.0000E 00                | 0.0000E 0             |
| 0                 | 7 144<br>0.1000E 11                     | 175                    | 0                  | 0                 | 0    | 1          | 0          | 0                       | 0.0000E 00                | 0.0000E 0             |
| 0                 | 8 165<br>0.1000E 11                     | 176                    | 0                  | 0                 | 0    | 1          | 0          | 0                       | 0.0000E 00                | 0.0000E 0             |

|   |            |     |     |   |   |   |   |   |   |            |           |
|---|------------|-----|-----|---|---|---|---|---|---|------------|-----------|
| 0 | 9          | 14  | 177 | 0 | 0 | 0 | 1 | 0 | 0 | 0.0000E 00 | 0.0000E 0 |
| 0 | 0.1000E 11 |     |     |   |   |   |   |   |   |            |           |
| 0 | 10         | 119 | 178 | 0 | 0 | 0 | 1 | 0 | 0 | 0.0000E 00 | 0.0000E 0 |
| 0 | 0.1000E 11 |     |     |   |   |   |   |   |   |            |           |
| 0 | 11         | 147 | 179 | 0 | 0 | 0 | 1 | 0 | 0 | 0.0000E 00 | 0.0000E 0 |
| 0 | 0.1000E 11 |     |     |   |   |   |   |   |   |            |           |
| 0 | 12         | 168 | 180 | 0 | 0 | 0 | 1 | 0 | 0 | 0.0000E 00 | 0.0000E 0 |
| 0 | 0.1000E 11 |     |     |   |   |   |   |   |   |            |           |
| 0 | 13         | 1   | 181 | 0 | 0 | 0 | 1 | 0 | 0 | 0.0000E 00 | 0.0000E 0 |
| 0 | 0.1000E 11 |     |     |   |   |   |   |   |   |            |           |
| 0 | 14         | 1   | 182 | 0 | 0 | 0 | 1 | 0 | 0 | 0.0000E 00 | 0.0000E 0 |
| 0 | 0.1000E 11 |     |     |   |   |   |   |   |   |            |           |
| 0 | 15         | 14  | 183 | 0 | 0 | 0 | 1 | 0 | 0 | 0.0000E 00 | 0.0000E 0 |
| 0 | 0.1000E 11 |     |     |   |   |   |   |   |   |            |           |

## E Q U A T I O N   P A R A M E T E R S

|                                |   |     |
|--------------------------------|---|-----|
| TOTAL NUMBER OF EQUATIONS      | = | 840 |
| BANDWIDTH                      | = | 185 |
| NUMBER OF EQUATIONS IN A BLOCK | = | 32  |
| NUMBER OF BLOCKS               | = | 27  |



N O D A L L O A D S ( S T A T I C ) O R M A S S E S ( D Y N A M I C )

| NODE<br>NUMBER | LOAD<br>CASE | X-AXIS<br>FORCE | Y-AXIS<br>FORCE | Z-AXIS<br>FORCE | X-AXIS<br>MOMENT | Y-AXIS<br>MOMENT | Z-AXIS<br>MOMENT |
|----------------|--------------|-----------------|-----------------|-----------------|------------------|------------------|------------------|
|----------------|--------------|-----------------|-----------------|-----------------|------------------|------------------|------------------|

| STRUCTURE<br>LOAD CASE | ELEMENT |       | LOAD  | MULTIPLIERS |   |
|------------------------|---------|-------|-------|-------------|---|
|                        | A       | B     |       | C           | D |
| 1                      | 1.000   | 0.000 | 0.000 | 0.000       |   |
| 2                      | 0.000   | 1.000 | 0.000 | 0.000       |   |

N O D E D I S P L A C E M E N T S / R O T A T I O N S

| NODE<br>NUMBER | LO<br>CA | X-<br>TRANSLATION | Y-<br>TRANSLATION | Z-<br>TRANSLATION | X-<br>ROTATION | Y-<br>ROTATION | Z-<br>ROTATION |
|----------------|----------|-------------------|-------------------|-------------------|----------------|----------------|----------------|
| 0 183          | 1        | 0.00000E 00       | 0.00000E 00       | 0.00000E 00       | 0.00000E 00    | 0.00000E 00    | 0.00000E 00    |
|                | 2        | 0.00000E 00       | 0.00000E 00       | 0.00000E 00       | 0.00000E 00    | 0.00000E 00    | 0.00000E 00    |
| 0 182          | 1        | 0.00000E 00       | 0.00000E 00       | 0.00000E 00       | 0.00000E 00    | 0.00000E 00    | 0.00000E 00    |
|                | 2        | 0.00000E 00       | 0.00000E 00       | 0.00000E 00       | 0.00000E 00    | 0.00000E 00    | 0.00000E 00    |
| 0 181          | 1        | 0.00000E 00       | 0.00000E 00       | 0.00000E 00       | 0.00000E 00    | 0.00000E 00    | 0.00000E 00    |
|                | 2        | 0.00000E 00       | 0.00000E 00       | 0.00000E 00       | 0.00000E 00    | 0.00000E 00    | 0.00000E 00    |
| 0 180          | 1        | 0.00000E 00       | 0.00000E 00       | 0.00000E 00       | 0.00000E 00    | 0.00000E 00    | 0.00000E 00    |
|                | 2        | 0.00000E 00       | 0.00000E 00       | 0.00000E 00       | 0.00000E 00    | 0.00000E 00    | 0.00000E 00    |
| 0 179          | 1        | 0.00000E 00       | 0.00000E 00       | 0.00000E 00       | 0.00000E 00    | 0.00000E 00    | 0.00000E 00    |
|                | 2        | 0.00000E 00       | 0.00000E 00       | 0.00000E 00       | 0.00000E 00    | 0.00000E 00    | 0.00000E 00    |
| 0 178          | 1        | 0.00000E 00       | 0.00000E 00       | 0.00000E 00       | 0.00000E 00    | 0.00000E 00    | 0.00000E 00    |
|                | 2        | 0.00000E 00       | 0.00000E 00       | 0.00000E 00       | 0.00000E 00    | 0.00000E 00    | 0.00000E 00    |
| 0 177          | 1        | 0.00000E 00       | 0.00000E 00       | 0.00000E 00       | 0.00000E 00    | 0.00000E 00    | 0.00000E 00    |
|                | 2        | 0.00000E 00       | 0.00000E 00       | 0.00000E 00       | 0.00000E 00    | 0.00000E 00    | 0.00000E 00    |
| 0 176          | 1        | 0.00000E 00       | 0.00000E 00       | 0.00000E 00       | 0.00000E 00    | 0.00000E 00    | 0.00000E 00    |
|                | 2        | 0.00000E 00       | 0.00000E 00       | 0.00000E 00       | 0.00000E 00    | 0.00000E 00    | 0.00000E 00    |
| 0 175          | 1        | 0.00000E 00       | 0.00000E 00       | 0.00000E 00       | 0.00000E 00    | 0.00000E 00    | 0.00000E 00    |
|                | 2        | 0.00000E 00       | 0.00000E 00       | 0.00000E 00       | 0.00000E 00    | 0.00000E 00    | 0.00000E 00    |
| 0 174          | 1        | 0.00000E 00       | 0.00000E 00       | 0.00000E 00       | 0.00000E 00    | 0.00000E 00    | 0.00000E 00    |
|                | 2        | 0.00000E 00       | 0.00000E 00       | 0.00000E 00       | 0.00000E 00    | 0.00000E 00    | 0.00000E 00    |
| 0 173          | 1        | 0.00000E 00       | 0.00000E 00       | 0.00000E 00       | 0.00000E 00    | 0.00000E 00    | 0.00000E 00    |
|                | 2        | 0.00000E 00       | 0.00000E 00       | 0.00000E 00       | 0.00000E 00    | 0.00000E 00    | 0.00000E 00    |
| 0 172          | 1        | 0.00000E 00       | 0.00000E 00       | 0.00000E 00       | 0.00000E 00    | 0.00000E 00    | 0.00000E 00    |
|                | 2        | 0.00000E 00       | 0.00000E 00       | 0.00000E 00       | 0.00000E 00    | 0.00000E 00    | 0.00000E 00    |
| 0 171          | 1        | 0.00000E 00       | 0.00000E 00       | 0.00000E 00       | 0.00000E 00    | 0.00000E 00    | 0.00000E 00    |
|                | 2        | 0.00000E 00       | 0.00000E 00       | 0.00000E 00       | 0.00000E 00    | 0.00000E 00    | 0.00000E 00    |
| 0 170          | 1        | 0.00000E 00       | 0.00000E 00       | 0.00000E 00       | 0.00000E 00    | 0.00000E 00    | 0.00000E 00    |
|                | 2        | 0.00000E 00       | 0.00000E 00       | 0.00000E 00       | 0.00000E 00    | 0.00000E 00    | 0.00000E 00    |
| 0 169          | 1        | 0.00000E 00       | 0.00000E 00       | 0.00000E 00       | 0.00000E 00    | 0.00000E 00    | 0.00000E 00    |
|                | 2        | 0.00000E 00       | 0.00000E 00       | 0.00000E 00       | 0.00000E 00    | 0.00000E 00    | 0.00000E 00    |
| 0 168          | 1        | 0.18536E-09       | -0.22965E-09      | -0.26393E-09      | 0.31327E-04    | -0.15126E-03   | 0.00000E 00    |

|   |     |   |             |              |              |              |              |             |
|---|-----|---|-------------|--------------|--------------|--------------|--------------|-------------|
| 0 | 167 | 2 | 0.25850E-09 | -0.20437E-09 | -0.51832E-08 | 0.10052E-02  | -0.12326E-02 | 0.00000E 00 |
|   |     | 1 | 0.15991E-09 | -0.22966E-09 | -0.64903E-04 | 0.12053E-04  | -0.10448E-03 | 0.00000E 00 |
| 0 | 166 | 2 | 0.24389E-09 | -0.20437E-09 | -0.19340E-02 | 0.27321E-03  | -0.68490E-03 | 0.00000E 00 |
|   |     | 1 | 0.14202E-09 | -0.22968E-09 | -0.60316E-04 | -0.17138E-04 | -0.96773E-04 | 0.00000E 00 |
| 0 | 165 | 2 | 0.23370E-09 | -0.20439E-09 | -0.15463E-02 | -0.63965E-03 | -0.86805E-03 | 0.00000E 00 |
|   |     | 1 | 0.11672E-09 | -0.22977E-09 | -0.40713E-09 | -0.12738E-04 | -0.10117E-03 | 0.00000E 00 |
| 0 | 164 | 2 | 0.21940E-09 | -0.20453E-09 | -0.15051E-07 | 0.82145E-04  | -0.15671E-02 | 0.00000E 00 |
|   |     | 1 | 0.93082E-10 | -0.22986E-09 | -0.84217E-05 | 0.59953E-05  | -0.66187E-04 | 0.00000E 00 |
| 0 | 163 | 2 | 0.20607E-09 | -0.20466E-09 | -0.17663E-02 | 0.77851E-03  | -0.86453E-03 | 0.00000E 00 |
|   |     | 1 | 0.69505E-10 | -0.22988E-09 | -0.13509E-04 | -0.23888E-05 | -0.49062E-04 | 0.00000E 00 |
| 0 | 162 | 2 | 0.19285E-09 | -0.20471E-09 | -0.22646E-02 | -0.44512E-03 | -0.65573E-03 | 0.00000E 00 |
|   |     | 1 | 0.46032E-10 | -0.22988E-09 | -0.11075E-09 | -0.64702E-05 | -0.63383E-04 | 0.00000E 00 |
| 0 | 161 | 2 | 0.17980E-09 | -0.20470E-09 | -0.54912E-08 | -0.12075E-02 | -0.12651E-02 | 0.00000E 00 |
|   |     | 1 | 0.18535E-09 | -0.20623E-09 | -0.31469E-03 | -0.19188E-04 | -0.10629E-03 | 0.00000E 00 |
| 0 | 160 | 2 | 0.25850E-09 | -0.19089E-09 | -0.23119E-02 | 0.46353E-03  | -0.49447E-03 | 0.00000E 00 |
|   |     | 1 | 0.15990E-09 | -0.20626E-09 | -0.28075E-03 | -0.11400E-04 | -0.70431E-04 | 0.00000E 00 |
| 0 | 159 | 2 | 0.24387E-09 | -0.19094E-09 | -0.32918E-02 | 0.15930E-03  | -0.32393E-03 | 0.00000E 00 |
|   |     | 1 | 0.14205E-09 | -0.20634E-09 | -0.25734E-03 | -0.17694E-04 | -0.67724E-04 | 0.00000E 00 |
| 0 | 158 | 2 | 0.23374E-09 | -0.19107E-09 | -0.31013E-02 | -0.31643E-03 | -0.36704E-03 | 0.00000E 00 |
|   |     | 1 | 0.11678E-09 | -0.20652E-09 | -0.19856E-03 | -0.28685E-04 | -0.64613E-04 | 0.00000E 00 |
| 0 | 157 | 2 | 0.21949E-09 | -0.19140E-09 | -0.26140E-02 | 0.69636E-04  | -0.51446E-03 | 0.00000E 00 |
|   |     | 1 | 0.93110E-10 | -0.20671E-09 | -0.13478E-03 | -0.23154E-04 | -0.34996E-04 | 0.00000E 00 |
| 0 | 156 | 2 | 0.20612E-09 | -0.19171E-09 | -0.33551E-02 | 0.41665E-03  | -0.36708E-03 | 0.00000E 00 |
|   |     | 1 | 0.69490E-10 | -0.20681E-09 | -0.10453E-03 | -0.14773E-05 | -0.19044E-04 | 0.00000E 00 |
| 0 | 155 | 2 | 0.19283E-09 | -0.19188E-09 | -0.36000E-02 | -0.28212E-03 | -0.31749E-03 | 0.00000E 00 |
|   |     | 1 | 0.46034E-10 | -0.20684E-09 | -0.12698E-03 | 0.17102E-04  | -0.38769E-04 | 0.00000E 00 |
| 0 | 154 | 2 | 0.17981E-09 | -0.19192E-09 | -0.23642E-02 | -0.59794E-03 | -0.50518E-03 | 0.00000E 00 |
|   |     | 1 | 0.18528E-09 | -0.18269E-09 | -0.41337E-03 | -0.58971E-04 | 0.38942E-04  | 0.00000E 00 |
| 0 | 153 | 2 | 0.25838E-09 | -0.17718E-09 | -0.19154E-02 | 0.59977E-03  | 0.76301E-03  | 0.00000E 00 |
|   |     | 1 | 0.15985E-09 | -0.18272E-09 | -0.32367E-03 | -0.23978E-04 | 0.45989E-04  | 0.00000E 00 |
| 0 | 152 | 2 | 0.24379E-09 | -0.17725E-09 | -0.30571E-02 | 0.17223E-03  | 0.47194E-03  | 0.00000E 00 |
|   |     | 1 | 0.14211E-09 | -0.18285E-09 | -0.30362E-03 | -0.38713E-05 | 0.34179E-04  | 0.00000E 00 |
| 0 | 151 | 2 | 0.23386E-09 | -0.17753E-09 | -0.27931E-02 | -0.42457E-03 | 0.57762E-03  | 0.00000E 00 |
|   |     | 1 | 0.11697E-09 | -0.18325E-09 | -0.24837E-03 | -0.46927E-04 | 0.25254E-04  | 0.00000E 00 |
| 0 | 150 | 2 | 0.21981E-09 | -0.17826E-09 | -0.21289E-02 | 0.69116E-04  | 0.88369E-03  | 0.00000E 00 |
|   |     | 1 | 0.93213E-10 | -0.18367E-09 | -0.11149E-03 | -0.58070E-04 | 0.66984E-04  | 0.00000E 00 |

|   |     |   |             |              |              |              |              |             |
|---|-----|---|-------------|--------------|--------------|--------------|--------------|-------------|
|   |     | 2 | 0.20628E-09 | -0.17897E-09 | -0.30197E-02 | 0.52672E-03  | 0.59715E-03  | 0.00000E 00 |
| 0 | 149 | 1 | 0.69422E-10 | -0.18391E-09 | -0.57287E-04 | 0.11327E-04  | 0.71267E-04  | 0.00000E 00 |
|   |     | 2 | 0.19272E-09 | -0.17932E-09 | -0.33629E-02 | -0.30589E-03 | 0.46457E-03  | 0.00000E 00 |
| 0 | 148 | 1 | 0.45980E-10 | -0.18394E-09 | -0.14881E-03 | 0.57098E-04  | 0.25599E-04  | 0.00000E 00 |
|   |     | 2 | 0.17971E-09 | -0.17937E-09 | -0.19642E-02 | -0.74451E-03 | 0.77862E-03  | 0.00000E 00 |
| 0 | 147 | 1 | 0.18496E-09 | -0.15905E-09 | 0.19638E-08  | -0.11898E-04 | 0.37242E-03  | 0.00000E 00 |
|   |     | 2 | 0.25780E-09 | -0.16316E-09 | -0.12529E-07 | 0.11711E-02  | 0.35853E-03  | 0.00000E 00 |
| 0 | 146 | 1 | 0.15969E-09 | -0.15899E-09 | -0.29296E-04 | 0.16520E-04  | 0.19596E-03  | 0.00000E 00 |
|   |     | 2 | 0.24352E-09 | -0.16315E-09 | -0.19793E-02 | 0.23223E-03  | 0.32443E-03  | 0.00000E 00 |
| 0 | 145 | 1 | 0.14225E-09 | -0.15916E-09 | -0.50777E-04 | 0.71429E-05  | 0.17488E-03  | 0.00000E 00 |
|   |     | 2 | 0.23421E-09 | -0.16363E-09 | -0.15706E-02 | -0.66210E-03 | 0.34119E-03  | 0.00000E 00 |
| 0 | 144 | 1 | 0.11751E-09 | -0.15989E-09 | 0.33008E-08  | -0.79158E-04 | 0.22675E-03  | 0.00000E 00 |
|   |     | 2 | 0.22078E-09 | -0.16513E-09 | -0.40925E-07 | 0.69625E-04  | 0.36286E-03  | 0.00000E 00 |
| 0 | 143 | 1 | 0.93526E-10 | -0.16078E-09 | 0.23883E-03  | -0.70070E-04 | 0.24613E-03  | 0.00000E 00 |
|   |     | 2 | 0.20669E-09 | -0.16658E-09 | -0.17481E-02 | 0.80394E-03  | 0.34549E-03  | 0.00000E 00 |
| 0 | 142 | 1 | 0.69236E-10 | -0.16125E-09 | 0.24085E-03  | 0.60412E-04  | 0.18866E-03  | 0.00000E 00 |
|   |     | 2 | 0.19238E-09 | -0.16715E-09 | -0.22846E-02 | -0.40795E-03 | 0.32511E-03  | 0.00000E 00 |
| 0 | 141 | 1 | 0.45658E-10 | -0.16128E-09 | 0.34165E-09  | 0.12726E-03  | 0.10965E-03  | 0.00000E 00 |
|   |     | 2 | 0.17922E-09 | -0.16713E-09 | -0.13297E-07 | -0.13642E-02 | 0.35227E-03  | 0.00000E 00 |
| 0 | 140 | 1 | 0.18432E-09 | -0.13554E-09 | 0.11383E-02  | 0.41086E-03  | 0.47103E-03  | 0.00000E 00 |
|   |     | 2 | 0.25632E-09 | -0.14913E-09 | -0.45499E-03 | 0.73294E-03  | -0.28924E-03 | 0.00000E 00 |
| 0 | 139 | 1 | 0.15907E-09 | -0.13516E-09 | 0.35241E-03  | 0.16212E-03  | 0.46689E-04  | 0.00000E 00 |
|   |     | 2 | 0.24260E-09 | -0.14871E-09 | -0.17697E-02 | 0.17255E-03  | -0.77580E-04 | 0.00000E 00 |
| 0 | 138 | 1 | 0.14233E-09 | -0.13492E-09 | 0.28423E-03  | -0.67490E-04 | 0.54639E-04  | 0.00000E 00 |
|   |     | 2 | 0.23488E-09 | -0.14892E-09 | -0.14370E-02 | -0.49311E-03 | -0.13736E-03 | 0.00000E 00 |
| 0 | 137 | 1 | 0.11902E-09 | -0.13629E-09 | 0.66841E-03  | -0.17682E-03 | 0.28687E-03  | 0.00000E 00 |
|   |     | 2 | 0.22355E-09 | -0.15204E-09 | -0.64977E-03 | 0.60638E-04  | -0.36984E-03 | 0.00000E 00 |
| 0 | 136 | 1 | 0.94280E-10 | -0.13808E-09 | 0.91833E-03  | -0.72510E-05 | 0.32810E-03  | 0.00000E 00 |
|   |     | 2 | 0.20744E-09 | -0.15486E-09 | -0.16253E-02 | 0.59336E-03  | -0.13353E-03 | 0.00000E 00 |
| 0 | 135 | 1 | 0.68782E-10 | -0.13888E-09 | 0.72043E-03  | 0.16202E-03  | 0.20729E-03  | 0.00000E 00 |
|   |     | 2 | 0.19137E-09 | -0.15542E-09 | -0.20600E-02 | -0.30748E-03 | -0.52824E-04 | 0.00000E 00 |
| 0 | 134 | 1 | 0.44657E-10 | -0.13882E-09 | 0.26784E-03  | 0.20560E-03  | 0.91077E-04  | 0.00000E 00 |
|   |     | 2 | 0.17798E-09 | -0.15499E-09 | -0.52570E-03 | -0.85393E-03 | -0.30065E-03 | 0.00000E 00 |
| 0 | 133 | 1 | 0.18419E-09 | -0.11288E-09 | 0.17135E-02  | 0.11083E-02  | -0.11722E-03 | 0.00000E 00 |
|   |     | 2 | 0.25430E-09 | -0.13608E-09 | -0.49547E-03 | 0.76074E-03  | 0.24539E-03  | 0.00000E 00 |
| 0 | 132 | 1 | 0.15652E-09 | -0.11082E-09 | -0.31436E-03 | 0.38718E-03  | -0.76042E-03 | 0.00000E 00 |

|   |     |   |             |              |              |              |              |             |
|---|-----|---|-------------|--------------|--------------|--------------|--------------|-------------|
|   |     | 2 | 0.23915E-09 | -0.13371E-09 | -0.18707E-02 | 0.16511E-03  | -0.17661E-04 | 0.00000E 00 |
| 0 | 131 | 1 | 0.14169E-09 | -0.10979E-09 | -0.31233E-03 | -0.35588E-03 | -0.66254E-03 | 0.00000E 00 |
|   |     | 2 | 0.23502E-09 | -0.13314E-09 | -0.15267E-02 | -0.49648E-03 | 0.55124E-04  | 0.00000E 00 |
| 0 | 130 | 1 | 0.12348E-09 | -0.11203E-09 | 0.98795E-03  | -0.48358E-03 | -0.40317E-04 | 0.00000E 00 |
|   |     | 2 | 0.23216E-09 | -0.13814E-09 | -0.64308E-03 | 0.43112E-04  | 0.36872E-03  | 0.00000E 00 |
| 0 | 129 | 1 | 0.95472E-10 | -0.11570E-09 | 0.14394E-02  | 0.51550E-04  | 0.11068E-03  | 0.00000E 00 |
|   |     | 2 | 0.20786E-09 | -0.14494E-09 | -0.16385E-02 | 0.57155E-03  | 0.11791E-03  | 0.00000E 00 |
| 0 | 128 | 1 | 0.67759E-10 | -0.11647E-09 | 0.10244E-02  | 0.29207E-03  | 0.37643E-04  | 0.00000E 00 |
|   |     | 2 | 0.18816E-09 | -0.14401E-09 | -0.20541E-02 | -0.30498E-03 | 0.61581E-04  | 0.00000E 00 |
| 0 | 127 | 1 | 0.42325E-10 | -0.11628E-09 | 0.29508E-03  | 0.32762E-03  | -0.74434E-04 | 0.00000E 00 |
|   |     | 2 | 0.17634E-09 | -0.14279E-09 | -0.53083E-03 | -0.84637E-03 | 0.29684E-03  | 0.00000E 00 |
| 0 | 126 | 1 | 0.18667E-09 | -0.96463E-10 | 0.10115E-02  | 0.17272E-02  | -0.84742E-03 | 0.00000E 00 |
|   |     | 2 | 0.25492E-09 | -0.12595E-09 | -0.40706E-04 | 0.11629E-02  | 0.31391E-03  | 0.00000E 00 |
| 0 | 125 | 1 | 0.16767E-09 | -0.95994E-10 | -0.91331E-03 | 0.13293E-02  | -0.14004E-02 | 0.00000E 00 |
|   |     | 2 | 0.24223E-09 | -0.12516E-09 | -0.13308E-02 | 0.87928E-03  | -0.81911E-04 | 0.00000E 00 |
| 0 | 124 | 1 | 0.15333E-09 | -0.94020E-10 | -0.20867E-02 | 0.50510E-03  | -0.16081E-02 | 0.00000E 00 |
|   |     | 2 | 0.23511E-09 | -0.12332E-09 | -0.20274E-02 | 0.20679E-03  | -0.20794E-03 | 0.00000E 00 |
| 0 | 123 | 1 | 0.14643E-09 | -0.93469E-10 | -0.22388E-02 | -0.12933E-03 | -0.16133E-02 | 0.00000E 00 |
|   |     | 2 | 0.23398E-09 | -0.12300E-09 | -0.19895E-02 | -0.28073E-03 | -0.22206E-03 | 0.00000E 00 |
| 0 | 122 | 1 | 0.14072E-09 | -0.93698E-10 | -0.18875E-02 | -0.67202E-03 | -0.14482E-02 | 0.00000E 00 |
|   |     | 2 | 0.23440E-09 | -0.12377E-09 | -0.15860E-02 | -0.63958E-03 | -0.15829E-03 | 0.00000E 00 |
| 0 | 121 | 1 | 0.13440E-09 | -0.94001E-10 | -0.70342E-03 | -0.11527E-02 | -0.10075E-02 | 0.00000E 00 |
|   |     | 2 | 0.23778E-09 | -0.12474E-09 | -0.61553E-03 | -0.85226E-03 | 0.89488E-04  | 0.00000E 00 |
| 0 | 120 | 1 | 0.12918E-09 | -0.97358E-10 | 0.58070E-03  | -0.77598E-03 | -0.46398E-03 | 0.00000E 00 |
|   |     | 2 | 0.24292E-09 | -0.13124E-09 | -0.40052E-04 | 0.50173E-04  | 0.37022E-03  | 0.00000E 00 |
| 0 | 119 | 1 | 0.19538E-09 | -0.85651E-10 | -0.12902E-07 | 0.20702E-02  | -0.18368E-02 | 0.00000E 00 |
|   |     | 2 | 0.26199E-09 | -0.11854E-09 | -0.12505E-07 | 0.14305E-02  | -0.39182E-03 | 0.00000E 00 |
| 0 | 118 | 1 | 0.16624E-09 | -0.84567E-10 | -0.19213E-02 | 0.16200E-02  | -0.19539E-02 | 0.00000E 00 |
|   |     | 2 | 0.23843E-09 | -0.11712E-09 | -0.12968E-02 | 0.10597E-02  | -0.40667E-03 | 0.00000E 00 |
| 0 | 117 | 1 | 0.15787E-09 | -0.84037E-10 | -0.29320E-02 | 0.11367E-02  | -0.20206E-02 | 0.00000E 00 |
|   |     | 2 | 0.23437E-09 | -0.11652E-09 | -0.19292E-02 | 0.67598E-03  | -0.39141E-03 | 0.00000E 00 |
| 0 | 116 | 1 | 0.15108E-09 | -0.83983E-10 | -0.35512E-02 | 0.54396E-03  | -0.20547E-02 | 0.00000E 00 |
|   |     | 2 | 0.23228E-09 | -0.11659E-09 | -0.22619E-02 | 0.23462E-03  | -0.38909E-03 | 0.00000E 00 |
| 0 | 115 | 1 | 0.14681E-09 | -0.84276E-10 | -0.37210E-02 | 0.35211E-04  | -0.20417E-02 | 0.00000E 00 |
|   |     | 2 | 0.23204E-09 | -0.11717E-09 | -0.22947E-02 | -0.11817E-03 | -0.39392E-03 | 0.00000E 00 |
| 0 | 114 | 1 | 0.14319E-09 | -0.84676E-10 | -0.36004E-02 | -0.44081E-03 | -0.19789E-02 | 0.00000E 00 |

|   |     |   |             |              |              |              |              |             |
|---|-----|---|-------------|--------------|--------------|--------------|--------------|-------------|
| 0 | 113 | 2 | 0.23258E-09 | -0.11796E-09 | -0.21342E-02 | -0.42800E-03 | -0.39995E-03 | 0.00000E 00 |
|   |     | 1 | 0.13997E-09 | -0.85297E-10 | -0.32088E-02 | -0.87831E-03 | -0.18602E-02 | 0.00000E 00 |
| 0 | 112 | 2 | 0.23371E-09 | -0.11910E-09 | -0.18033E-02 | -0.69657E-03 | -0.40208E-03 | 0.00000E 00 |
|   |     | 1 | 0.13645E-09 | -0.86214E-10 | -0.24047E-02 | -0.12902E-02 | -0.16464E-02 | 0.00000E 00 |
| 0 | 111 | 2 | 0.23587E-09 | -0.12080E-09 | -0.12107E-02 | -0.90989E-03 | -0.40608E-03 | 0.00000E 00 |
|   |     | 1 | 0.13323E-09 | -0.87175E-10 | -0.13797E-02 | -0.14713E-02 | -0.14074E-02 | 0.00000E 00 |
| 0 | 110 | 2 | 0.23848E-09 | -0.12262E-09 | -0.55009E-03 | -0.87321E-03 | -0.43295E-03 | 0.00000E 00 |
|   |     | 1 | 0.13961E-09 | -0.88270E-10 | -0.21854E-07 | -0.10313E-02 | -0.10260E-02 | 0.00000E 00 |
| 0 | 109 | 2 | 0.26303E-09 | -0.12481E-09 | -0.42048E-07 | 0.62518E-04  | -0.36181E-03 | 0.00000E 00 |
|   |     | 1 | 0.11932E-09 | -0.90120E-10 | 0.59317E-03  | -0.48846E-03 | -0.77201E-03 | 0.00000E 00 |
| 0 | 108 | 2 | 0.23351E-09 | -0.12862E-09 | -0.39468E-03 | 0.84047E-03  | -0.39576E-03 | 0.00000E 00 |
|   |     | 1 | 0.96854E-10 | -0.91451E-10 | 0.10782E-02  | -0.83847E-04 | -0.45653E-03 | 0.00000E 00 |
| 0 | 107 | 2 | 0.20868E-09 | -0.13159E-09 | -0.17080E-02 | 0.81637E-03  | -0.36361E-03 | 0.00000E 00 |
|   |     | 1 | 0.66286E-10 | -0.93189E-10 | 0.84055E-03  | 0.27198E-03  | -0.16675E-03 | 0.00000E 00 |
| 0 | 106 | 2 | 0.17944E-09 | -0.13519E-09 | -0.22642E-02 | -0.40754E-03 | -0.31926E-03 | 0.00000E 00 |
|   |     | 1 | 0.37442E-10 | -0.93084E-10 | 0.18301E-08  | 0.41897E-03  | -0.10108E-03 | 0.00000E 00 |
| 0 | 105 | 2 | 0.17673E-09 | -0.13364E-09 | -0.13124E-07 | -0.13429E-02 | -0.33635E-03 | 0.00000E 00 |
|   |     | 1 | 0.17458E-09 | -0.71803E-10 | -0.23708E-02 | 0.18137E-02  | -0.26129E-02 | 0.00000E 00 |
| 0 | 104 | 2 | 0.23938E-09 | -0.10884E-09 | -0.87181E-03 | 0.11036E-02  | -0.11188E-02 | 0.00000E 00 |
|   |     | 1 | 0.16078E-09 | -0.70308E-10 | -0.41417E-02 | 0.15875E-02  | -0.23918E-02 | 0.00000E 00 |
| 0 | 103 | 2 | 0.23097E-09 | -0.10694E-09 | -0.19173E-02 | 0.90660E-03  | -0.78751E-03 | 0.00000E 00 |
|   |     | 1 | 0.15297E-09 | -0.71229E-10 | -0.51532E-02 | 0.11481E-02  | -0.23553E-02 | 0.00000E 00 |
| 0 | 102 | 2 | 0.22798E-09 | -0.10774E-09 | -0.24673E-02 | 0.58939E-03  | -0.65566E-03 | 0.00000E 00 |
|   |     | 1 | 0.14783E-09 | -0.72154E-10 | -0.57772E-02 | 0.53375E-03  | -0.23420E-02 | 0.00000E 00 |
| 0 | 101 | 2 | 0.22811E-09 | -0.10885E-09 | -0.27617E-02 | 0.21199E-03  | -0.59303E-03 | 0.00000E 00 |
|   |     | 1 | 0.14456E-09 | -0.73086E-10 | -0.59254E-02 | -0.34421E-04 | -0.23141E-02 | 0.00000E 00 |
| 0 | 100 | 2 | 0.22928E-09 | -0.11016E-09 | -0.27936E-02 | -0.10118E-03 | -0.58881E-03 | 0.00000E 00 |
|   |     | 1 | 0.14176E-09 | -0.74179E-10 | -0.57388E-02 | -0.59972E-03 | -0.22473E-02 | 0.00000E 00 |
| 0 | 99  | 2 | 0.23099E-09 | -0.11180E-09 | -0.26505E-02 | -0.38570E-03 | -0.61705E-03 | 0.00000E 00 |
|   |     | 1 | 0.13918E-09 | -0.75388E-10 | -0.52313E-02 | -0.11108E-02 | -0.21370E-02 | 0.00000E 00 |
| 0 | 98  | 2 | 0.23301E-09 | -0.11372E-09 | -0.23540E-02 | -0.61778E-03 | -0.67715E-03 | 0.00000E 00 |
|   |     | 1 | 0.13614E-09 | -0.77013E-10 | -0.42346E-02 | -0.15729E-02 | -0.19573E-02 | 0.00000E 00 |
| 0 | 97  | 2 | 0.23578E-09 | -0.11643E-09 | -0.18386E-02 | -0.77220E-03 | -0.80717E-03 | 0.00000E 00 |
|   |     | 1 | 0.13388E-09 | -0.78863E-10 | -0.29994E-02 | -0.17509E-02 | -0.17726E-02 | 0.00000E 00 |
| 0 | 96  | 2 | 0.24001E-09 | -0.11973E-09 | -0.12898E-02 | -0.69910E-03 | -0.10013E-02 | 0.00000E 00 |
|   |     | 1 | 0.12908E-09 | -0.79193E-10 | -0.13301E-02 | -0.14163E-02 | -0.14804E-02 | 0.00000E 00 |

|   |    |   |             |              |              |              |              |             |
|---|----|---|-------------|--------------|--------------|--------------|--------------|-------------|
|   |    | 2 | 0.24281E-09 | -0.12027E-09 | -0.89153E-03 | -0.21153E-04 | -0.11779E-02 | 0.00000E 00 |
| 0 | 95 | 1 | 0.16178E-09 | -0.64712E-10 | -0.43778E-02 | 0.15706E-02  | -0.22984E-02 | 0.00000E 00 |
|   |    | 2 | 0.22429E-09 | -0.10500E-09 | -0.17665E-02 | 0.79678E-03  | -0.10538E-02 | 0.00000E 00 |
| 0 | 94 | 1 | 0.15324E-09 | -0.62793E-10 | -0.59925E-02 | 0.14945E-02  | -0.21504E-02 | 0.00000E 00 |
|   |    | 2 | 0.22148E-09 | -0.10254E-09 | -0.25628E-02 | 0.70322E-03  | -0.77906E-03 | 0.00000E 00 |
| 0 | 93 | 1 | 0.14842E-09 | -0.62909E-10 | -0.69738E-02 | 0.11332E-02  | -0.21343E-02 | 0.00000E 00 |
|   |    | 2 | 0.22200E-09 | -0.10257E-09 | -0.30033E-02 | 0.47695E-03  | -0.65445E-03 | 0.00000E 00 |
| 0 | 92 | 1 | 0.14498E-09 | -0.63993E-10 | -0.75920E-02 | 0.51731E-03  | -0.21364E-02 | 0.00000E 00 |
|   |    | 2 | 0.22443E-09 | -0.10389E-09 | -0.32456E-02 | 0.17453E-03  | -0.59285E-03 | 0.00000E 00 |
| 0 | 91 | 1 | 0.14281E-09 | -0.65211E-10 | -0.77198E-02 | -0.93492E-04 | -0.21175E-02 | 0.00000E 00 |
|   |    | 2 | 0.22712E-09 | -0.10553E-09 | -0.32727E-02 | -0.82246E-04 | -0.59000E-03 | 0.00000E 00 |
| 0 | 90 | 1 | 0.14081E-09 | -0.66585E-10 | -0.74833E-02 | -0.71470E-03 | -0.20607E-02 | 0.00000E 00 |
|   |    | 2 | 0.22994E-09 | -0.10749E-09 | -0.31553E-02 | -0.31410E-03 | -0.62415E-03 | 0.00000E 00 |
| 0 | 89 | 1 | 0.13875E-09 | -0.68033E-10 | -0.68918E-02 | -0.12802E-02 | -0.19623E-02 | 0.00000E 00 |
|   |    | 2 | 0.23269E-09 | -0.10964E-09 | -0.29143E-02 | -0.49204E-03 | -0.69463E-03 | 0.00000E 00 |
| 0 | 88 | 1 | 0.13602E-09 | -0.69763E-10 | -0.57557E-02 | -0.17758E-02 | -0.17940E-02 | 0.00000E 00 |
|   |    | 2 | 0.23582E-09 | -0.11234E-09 | -0.25092E-02 | -0.58533E-03 | -0.82997E-03 | 0.00000E 00 |
| 0 | 87 | 1 | 0.13282E-09 | -0.71013E-10 | -0.43699E-02 | -0.19512E-02 | -0.16090E-02 | 0.00000E 00 |
|   |    | 2 | 0.23811E-09 | -0.11433E-09 | -0.21026E-02 | -0.48624E-03 | -0.10020E-02 | 0.00000E 00 |
| 0 | 86 | 1 | 0.12614E-09 | -0.71617E-10 | -0.24671E-02 | -0.16737E-02 | -0.13190E-02 | 0.00000E 00 |
|   |    | 2 | 0.23721E-09 | -0.11532E-09 | -0.18326E-02 | 0.40680E-05  | -0.11433E-02 | 0.00000E 00 |
| 0 | 85 | 1 | 0.11830E-09 | -0.75141E-10 | -0.85623E-03 | -0.11057E-02 | -0.11583E-02 | 0.00000E 00 |
|   |    | 2 | 0.23123E-09 | -0.11759E-09 | -0.15710E-02 | 0.50593E-03  | -0.11450E-02 | 0.00000E 00 |
| 0 | 84 | 1 | 0.14945E-09 | -0.58766E-10 | -0.59182E-02 | 0.14500E-02  | -0.14850E-02 | 0.00000E 00 |
|   |    | 2 | 0.20873E-09 | -0.10244E-09 | -0.24911E-02 | 0.59661E-03  | -0.72297E-03 | 0.00000E 00 |
| 0 | 83 | 1 | 0.14460E-09 | -0.56532E-10 | -0.74559E-02 | 0.14702E-02  | -0.14468E-02 | 0.00000E 00 |
|   |    | 2 | 0.21040E-09 | -0.99524E-10 | -0.31083E-02 | 0.56336E-03  | -0.55418E-03 | 0.00000E 00 |
| 0 | 82 | 1 | 0.14294E-09 | -0.56383E-10 | -0.84351E-02 | 0.11494E-02  | -0.14682E-02 | 0.00000E 00 |
|   |    | 2 | 0.21488E-09 | -0.99292E-10 | -0.34648E-02 | 0.39121E-03  | -0.47535E-03 | 0.00000E 00 |
| 0 | 81 | 1 | 0.14194E-09 | -0.57382E-10 | -0.90628E-02 | 0.52137E-03  | -0.14907E-02 | 0.00000E 00 |
|   |    | 2 | 0.22052E-09 | -0.10058E-09 | -0.36659E-02 | 0.14819E-03  | -0.43693E-03 | 0.00000E 00 |
| 0 | 80 | 1 | 0.14113E-09 | -0.58692E-10 | -0.91807E-02 | -0.13246E-03 | -0.14859E-02 | 0.00000E 00 |
|   |    | 2 | 0.22505E-09 | -0.10233E-09 | -0.36914E-02 | -0.61302E-04 | -0.43832E-03 | 0.00000E 00 |
| 0 | 79 | 1 | 0.14004E-09 | -0.60147E-10 | -0.89065E-02 | -0.80546E-03 | -0.14494E-02 | 0.00000E 00 |
|   |    | 2 | 0.22911E-09 | -0.10432E-09 | -0.35994E-02 | -0.24752E-03 | -0.46655E-03 | 0.00000E 00 |
| 0 | 78 | 1 | 0.13850E-09 | -0.61584E-10 | -0.82463E-02 | -0.14227E-02 | -0.13786E-02 | 0.00000E 00 |

|   |    |   |             |              |              |              |              |             |
|---|----|---|-------------|--------------|--------------|--------------|--------------|-------------|
| 0 | 77 | 2 | 0.23252E-09 | -0.10633E-09 | -0.34098E-02 | -0.38399E-03 | -0.52043E-03 | 0.00000E 00 |
|   |    | 1 | 0.13582E-09 | -0.63091E-10 | -0.69901E-02 | -0.19574E-02 | -0.12502E-02 | 0.00000E 00 |
| 0 | 76 | 2 | 0.23556E-09 | -0.10848E-09 | -0.30984E-02 | -0.44158E-03 | -0.61503E-03 | 0.00000E 00 |
|   |    | 1 | 0.13214E-09 | -0.64118E-10 | -0.54669E-02 | -0.21435E-02 | -0.10996E-02 | 0.00000E 00 |
| 0 | 75 | 2 | 0.23687E-09 | -0.10997E-09 | -0.27986E-02 | -0.34827E-03 | -0.72208E-03 | 0.00000E 00 |
|   |    | 1 | 0.12473E-09 | -0.64711E-10 | -0.33502E-02 | -0.19041E-02 | -0.86531E-03 | 0.00000E 00 |
| 0 | 74 | 2 | 0.23456E-09 | -0.11094E-09 | -0.26107E-02 | 0.29188E-05  | -0.79205E-03 | 0.00000E 00 |
|   |    | 1 | 0.11667E-09 | -0.64918E-10 | -0.19826E-02 | -0.15183E-02 | -0.65825E-03 | 0.00000E 00 |
| 0 | 73 | 2 | 0.22826E-09 | -0.11177E-09 | -0.27257E-02 | 0.26307E-03  | -0.72395E-03 | 0.00000E 00 |
|   |    | 1 | 0.97185E-10 | -0.65421E-10 | -0.24818E-03 | -0.72906E-03 | -0.34723E-03 | 0.00000E 00 |
| 0 | 72 | 2 | 0.20777E-09 | -0.11457E-09 | -0.32553E-02 | 0.39918E-03  | -0.56090E-03 | 0.00000E 00 |
|   |    | 1 | 0.63637E-10 | -0.66893E-10 | 0.44586E-03  | 0.60743E-04  | -0.65517E-04 | 0.00000E 00 |
| 0 | 71 | 2 | 0.16738E-09 | -0.12110E-09 | -0.34488E-02 | -0.30546E-03 | -0.42796E-03 | 0.00000E 00 |
|   |    | 1 | 0.32454E-10 | -0.66529E-10 | -0.54633E-04 | 0.30786E-03  | 0.44268E-05  | 0.00000E 00 |
| 0 | 70 | 2 | 0.13208E-09 | -0.11900E-09 | -0.21479E-02 | -0.69753E-03 | -0.67396E-03 | 0.00000E 00 |
|   |    | 1 | 0.13996E-09 | -0.55231E-10 | -0.65502E-02 | 0.14354E-02  | -0.70929E-03 | 0.00000E 00 |
| 0 | 69 | 2 | 0.19622E-09 | -0.10156E-09 | -0.28116E-02 | 0.51736E-03  | -0.38924E-03 | 0.00000E 00 |
|   |    | 1 | 0.13793E-09 | -0.52789E-10 | -0.80890E-02 | 0.14869E-02  | -0.75347E-03 | 0.00000E 00 |
| 0 | 68 | 2 | 0.20165E-09 | -0.98290E-10 | -0.33567E-02 | 0.50687E-03  | -0.30505E-03 | 0.00000E 00 |
|   |    | 1 | 0.13878E-09 | -0.52657E-10 | -0.90843E-02 | 0.11759E-02  | -0.79599E-03 | 0.00000E 00 |
| 0 | 67 | 2 | 0.20946E-09 | -0.98104E-10 | -0.36793E-02 | 0.35806E-03  | -0.26652E-03 | 0.00000E 00 |
|   |    | 1 | 0.13981E-09 | -0.53746E-10 | -0.97263E-02 | 0.53334E-03  | -0.82653E-03 | 0.00000E 00 |
| 0 | 66 | 2 | 0.21779E-09 | -0.99536E-10 | -0.38644E-02 | 0.13968E-03  | -0.24976E-03 | 0.00000E 00 |
|   |    | 1 | 0.14010E-09 | -0.55098E-10 | -0.98440E-02 | -0.14473E-03 | -0.83146E-03 | 0.00000E 00 |
| 0 | 65 | 2 | 0.22380E-09 | -0.10132E-09 | -0.38911E-02 | -0.48457E-04 | -0.25383E-03 | 0.00000E 00 |
|   |    | 1 | 0.13967E-09 | -0.56517E-10 | -0.95542E-02 | -0.84565E-03 | -0.81370E-03 | 0.00000E 00 |
| 0 | 64 | 2 | 0.22873E-09 | -0.10320E-09 | -0.38126E-02 | -0.21488E-03 | -0.27261E-03 | 0.00000E 00 |
|   |    | 1 | 0.13844E-09 | -0.57810E-10 | -0.88619E-02 | -0.14902E-02 | -0.77250E-03 | 0.00000E 00 |
| 0 | 63 | 2 | 0.23255E-09 | -0.10491E-09 | -0.36477E-02 | -0.33446E-03 | -0.30485E-03 | 0.00000E 00 |
|   |    | 1 | 0.13581E-09 | -0.59039E-10 | -0.75467E-02 | -0.20485E-02 | -0.69315E-03 | 0.00000E 00 |
| 0 | 62 | 2 | 0.23556E-09 | -0.10651E-09 | -0.33785E-02 | -0.38150E-03 | -0.35833E-03 | 0.00000E 00 |
|   |    | 1 | 0.13193E-09 | -0.59772E-10 | -0.59522E-02 | -0.22457E-02 | -0.59421E-03 | 0.00000E 00 |
| 0 | 61 | 2 | 0.23648E-09 | -0.10744E-09 | -0.31224E-02 | -0.29915E-03 | -0.41339E-03 | 0.00000E 00 |
|   |    | 1 | 0.12421E-09 | -0.60059E-10 | -0.37233E-02 | -0.20157E-02 | -0.43670E-03 | 0.00000E 00 |
| 0 | 60 | 2 | 0.23365E-09 | -0.10781E-09 | -0.29623E-02 | 0.10516E-06  | -0.44569E-03 | 0.00000E 00 |
|   |    | 1 | 0.12946E-09 | -0.52547E-10 | -0.67147E-02 | 0.14791E-02  | 0.12844E-03  | 0.00000E 00 |



|   |    |   |             |              |              |              |              |             |
|---|----|---|-------------|--------------|--------------|--------------|--------------|-------------|
| 0 | 59 | 2 | 0.18200E-09 | -0.10181E-09 | -0.29283E-02 | 0.48925E-03  | -0.21566E-04 | 0.00000E 00 |
|   |    | 1 | 0.13099E-09 | -0.49915E-10 | -0.83012E-02 | 0.15334E-02  | -0.69992E-06 | 0.00000E 00 |
| 0 | 58 | 2 | 0.19237E-09 | -0.98215E-10 | -0.34495E-02 | 0.48871E-03  | -0.20569E-04 | 0.00000E 00 |
|   |    | 1 | 0.13477E-09 | -0.49984E-10 | -0.93273E-02 | 0.12121E-02  | -0.70603E-04 | 0.00000E 00 |
| 0 | 57 | 2 | 0.20416E-09 | -0.98298E-10 | -0.37618E-02 | 0.34867E-03  | -0.23349E-04 | 0.00000E 00 |
|   |    | 1 | 0.13797E-09 | -0.51286E-10 | -0.99896E-02 | 0.55192E-03  | -0.11351E-03 | 0.00000E 00 |
| 0 | 56 | 2 | 0.21544E-09 | -0.10001E-09 | -0.39435E-02 | 0.14007E-03  | -0.28339E-04 | 0.00000E 00 |
|   |    | 1 | 0.13935E-09 | -0.52660E-10 | -0.10113E-01 | -0.14340E-03 | -0.12961E-03 | 0.00000E 00 |
| 0 | 55 | 2 | 0.22291E-09 | -0.10179E-09 | -0.39729E-02 | -0.39778E-04 | -0.34232E-04 | 0.00000E 00 |
|   |    | 1 | 0.13950E-09 | -0.53928E-10 | -0.98191E-02 | -0.86199E-03 | -0.13174E-03 | 0.00000E 00 |
| 0 | 54 | 2 | 0.22861E-09 | -0.10338E-09 | -0.39017E-02 | -0.19868E-03 | -0.41438E-04 | 0.00000E 00 |
|   |    | 1 | 0.13853E-09 | -0.54930E-10 | -0.91121E-02 | -0.15232E-02 | -0.12090E-03 | 0.00000E 00 |
| 0 | 53 | 2 | 0.23273E-09 | -0.10457E-09 | -0.37481E-02 | -0.31254E-03 | -0.49441E-04 | 0.00000E 00 |
|   |    | 1 | 0.13591E-09 | -0.55698E-10 | -0.77663E-02 | -0.20980E-02 | -0.90457E-04 | 0.00000E 00 |
| 0 | 52 | 2 | 0.23570E-09 | -0.10537E-09 | -0.34962E-02 | -0.35717E-03 | -0.58054E-04 | 0.00000E 00 |
|   |    | 1 | 0.13188E-09 | -0.55960E-10 | -0.61317E-02 | -0.23047E-02 | -0.43744E-04 | 0.00000E 00 |
| 0 | 51 | 2 | 0.23636E-09 | -0.10545E-09 | -0.32565E-02 | -0.27985E-03 | -0.63963E-04 | 0.00000E 00 |
|   |    | 1 | 0.12393E-09 | -0.55673E-10 | -0.38407E-02 | -0.20743E-02 | 0.22684E-04  | 0.00000E 00 |
| 0 | 50 | 2 | 0.23318E-09 | -0.10474E-09 | -0.31076E-02 | 0.18284E-05  | -0.71822E-04 | 0.00000E 00 |
|   |    | 1 | 0.11623E-09 | -0.57501E-10 | -0.23190E-02 | -0.16757E-02 | -0.13226E-03 | 0.00000E 00 |
| 0 | 49 | 2 | 0.22770E-09 | -0.10580E-09 | -0.31399E-02 | 0.19190E-03  | -0.25873E-03 | 0.00000E 00 |
|   |    | 1 | 0.11692E-09 | -0.51036E-10 | -0.63938E-02 | 0.15855E-02  | 0.98864E-03  | 0.00000E 00 |
| 0 | 48 | 2 | 0.16471E-09 | -0.10384E-09 | -0.28297E-02 | 0.51116E-03  | 0.36818E-03  | 0.00000E 00 |
|   |    | 1 | 0.12359E-09 | -0.48209E-10 | -0.80818E-02 | 0.16143E-02  | 0.75791E-03  | 0.00000E 00 |
| 0 | 47 | 2 | 0.18232E-09 | -0.99911E-10 | -0.33746E-02 | 0.50833E-03  | 0.28210E-03  | 0.00000E 00 |
|   |    | 1 | 0.13106E-09 | -0.48725E-10 | -0.91580E-02 | 0.12617E-02  | 0.65331E-03  | 0.00000E 00 |
| 0 | 46 | 2 | 0.19923E-09 | -0.10059E-09 | -0.37008E-02 | 0.36282E-03  | 0.23654E-03  | 0.00000E 00 |
|   |    | 1 | 0.13660E-09 | -0.50312E-10 | -0.98501E-02 | 0.57964E-03  | 0.59300E-03  | 0.00000E 00 |
| 0 | 45 | 2 | 0.21371E-09 | -0.10266E-09 | -0.38917E-02 | 0.14897E-03  | 0.20938E-03  | 0.00000E 00 |
|   |    | 1 | 0.13895E-09 | -0.51579E-10 | -0.99873E-02 | -0.12749E-03 | 0.56253E-03  | 0.00000E 00 |
| 0 | 44 | 2 | 0.22248E-09 | -0.10423E-09 | -0.39250E-02 | -0.35762E-04 | 0.20200E-03  | 0.00000E 00 |
|   |    | 1 | 0.13954E-09 | -0.52456E-10 | -0.97001E-02 | -0.85519E-03 | 0.54057E-03  | 0.00000E 00 |
| 0 | 43 | 2 | 0.22875E-09 | -0.10519E-09 | -0.38542E-02 | -0.19973E-03 | 0.20745E-03  | 0.00000E 00 |
|   |    | 1 | 0.13871E-09 | -0.52914E-10 | -0.89948E-02 | -0.15240E-02 | 0.52420E-03  | 0.00000E 00 |
| 0 | 42 | 2 | 0.23303E-09 | -0.10550E-09 | -0.36977E-02 | -0.31880E-03 | 0.22590E-03  | 0.00000E 00 |
|   |    | 1 | 0.13606E-09 | -0.52945E-10 | -0.76441E-02 | -0.21092E-02 | 0.51150E-03  | 0.00000E 00 |

|   |    |   |             |              |              |              |              |             |
|---|----|---|-------------|--------------|--------------|--------------|--------------|-------------|
| 0 | 41 | 2 | 0.23591E-09 | -0.10507E-09 | -0.34375E-02 | -0.36861E-03 | 0.26379E-03  | 0.00000E 00 |
|   |    | 1 | 0.13188E-09 | -0.52499E-10 | -0.59965E-02 | -0.23253E-02 | 0.51479E-03  | 0.00000E 00 |
| 0 | 40 | 2 | 0.23634E-09 | -0.10393E-09 | -0.31867E-02 | -0.29076E-03 | 0.31209E-03  | 0.00000E 00 |
|   |    | 1 | 0.12381E-09 | -0.51387E-10 | -0.36881E-02 | -0.20872E-02 | 0.51496E-03  | 0.00000E 00 |
| 0 | 39 | 2 | 0.23303E-09 | -0.10170E-09 | -0.30318E-02 | 0.46842E-05  | 0.34377E-03  | 0.00000E 00 |
|   |    | 1 | 0.11571E-09 | -0.50454E-10 | -0.21831E-02 | -0.16740E-02 | 0.47955E-03  | 0.00000E 00 |
| 0 | 38 | 2 | 0.22687E-09 | -0.10011E-09 | -0.31267E-02 | 0.21461E-03  | 0.30629E-03  | 0.00000E 00 |
|   |    | 1 | 0.97316E-10 | -0.48689E-10 | -0.25045E-03 | -0.83307E-03 | 0.37851E-03  | 0.00000E 00 |
| 0 | 37 | 2 | 0.20876E-09 | -0.97468E-10 | -0.35530E-02 | 0.30685E-03  | 0.24769E-03  | 0.00000E 00 |
|   |    | 1 | 0.62026E-10 | -0.48507E-10 | 0.52162E-03  | 0.53797E-04  | 0.17719E-03  | 0.00000E 00 |
| 0 | 36 | 2 | 0.15871E-09 | -0.10106E-09 | -0.36647E-02 | -0.29370E-03 | 0.21739E-03  | 0.00000E 00 |
|   |    | 1 | 0.23739E-10 | -0.47666E-10 | -0.56893E-04 | 0.34250E-03  | -0.21560E-05 | 0.00000E 00 |
| 0 | 35 | 2 | 0.92482E-10 | -0.98606E-10 | -0.24567E-02 | -0.58098E-03 | 0.36744E-03  | 0.00000E 00 |
|   |    | 1 | 0.94401E-10 | -0.52597E-10 | -0.51540E-02 | 0.18681E-02  | 0.20707E-02  | 0.00000E 00 |
| 0 | 34 | 2 | 0.13319E-09 | -0.11205E-09 | -0.23254E-02 | 0.63563E-03  | 0.88103E-03  | 0.00000E 00 |
|   |    | 1 | 0.11325E-09 | -0.49677E-10 | -0.70947E-02 | 0.18093E-02  | 0.16663E-02  | 0.00000E 00 |
| 0 | 33 | 2 | 0.16808E-09 | -0.10791E-09 | -0.29872E-02 | 0.60482E-03  | 0.67411E-03  | 0.00000E 00 |
|   |    | 1 | 0.12735E-09 | -0.51058E-10 | -0.82875E-02 | 0.13803E-02  | 0.14800E-02  | 0.00000E 00 |
| 0 | 32 | 2 | 0.19428E-09 | -0.10976E-09 | -0.33736E-02 | 0.42684E-03  | 0.57038E-03  | 0.00000E 00 |
|   |    | 1 | 0.13580E-09 | -0.52572E-10 | -0.90488E-02 | 0.64925E-03  | 0.13655E-02  | 0.00000E 00 |
| 0 | 31 | 2 | 0.21276E-09 | -0.11164E-09 | -0.35986E-02 | 0.17626E-03  | 0.51330E-03  | 0.00000E 00 |
|   |    | 1 | 0.13891E-09 | -0.52853E-10 | -0.92225E-02 | -0.75049E-04 | 0.13058E-02  | 0.00000E 00 |
| 0 | 30 | 2 | 0.22252E-09 | -0.11172E-09 | -0.36390E-02 | -0.39165E-04 | 0.50421E-03  | 0.00000E 00 |
|   |    | 1 | 0.13974E-09 | -0.52449E-10 | -0.89625E-02 | -0.81370E-03 | 0.12604E-02  | 0.00000E 00 |
| 0 | 29 | 2 | 0.22907E-09 | -0.11074E-09 | -0.35572E-02 | -0.23346E-03 | 0.52610E-03  | 0.00000E 00 |
|   |    | 1 | 0.13892E-09 | -0.51556E-10 | -0.82791E-02 | -0.14886E-02 | 0.12250E-02  | 0.00000E 00 |
| 0 | 28 | 2 | 0.23331E-09 | -0.10897E-09 | -0.33718E-02 | -0.38103E-03 | 0.57877E-03  | 0.00000E 00 |
|   |    | 1 | 0.13614E-09 | -0.49999E-10 | -0.69478E-02 | -0.20892E-02 | 0.11949E-02  | 0.00000E 00 |
| 0 | 27 | 2 | 0.23597E-09 | -0.10601E-09 | -0.30549E-02 | -0.45578E-03 | 0.68183E-03  | 0.00000E 00 |
|   |    | 1 | 0.13179E-09 | -0.48154E-10 | -0.53063E-02 | -0.23226E-02 | 0.11912E-02  | 0.00000E 00 |
| 0 | 26 | 2 | 0.23616E-09 | -0.10252E-09 | -0.27374E-02 | -0.37624E-03 | 0.81098E-03  | 0.00000E 00 |
|   |    | 1 | 0.12352E-09 | -0.45368E-10 | -0.30166E-02 | -0.20418E-02 | 0.11569E-02  | 0.00000E 00 |
| 0 | 25 | 2 | 0.23259E-09 | -0.97215E-10 | -0.25308E-02 | 0.59002E-05  | 0.91417E-03  | 0.00000E 00 |
|   |    | 1 | 0.61991E-10 | -0.62890E-10 | -0.31463E-02 | 0.23269E-02  | 0.28822E-02  | 0.00000E 00 |
| 0 | 24 | 2 | 0.87505E-10 | -0.13283E-09 | -0.14424E-02 | 0.87282E-03  | 0.12984E-02  | 0.00000E 00 |
|   |    | 1 | 0.10536E-09 | -0.59984E-10 | -0.55003E-02 | 0.21368E-02  | 0.22558E-02  | 0.00000E 00 |

|   |    |   |             |              |              |              |             |             |
|---|----|---|-------------|--------------|--------------|--------------|-------------|-------------|
| 0 | 23 | 2 | 0.15710E-09 | -0.12867E-09 | -0.23219E-02 | 0.78291E-03  | 0.96286E-03 | 0.00000E 00 |
|   |    | 1 | 0.12653E-09 | -0.61803E-10 | -0.68915E-02 | 0.15907E-02  | 0.19519E-02 | 0.00000E 00 |
| 0 | 22 | 2 | 0.19323E-09 | -0.13109E-09 | -0.28158E-02 | 0.53927E-03  | 0.80187E-03 | 0.00000E 00 |
|   |    | 1 | 0.13571E-09 | -0.59867E-10 | -0.77769E-02 | 0.77827E-03  | 0.17567E-02 | 0.00000E 00 |
| 0 | 21 | 2 | 0.21267E-09 | -0.12804E-09 | -0.30985E-02 | 0.22021E-03  | 0.71714E-03 | 0.00000E 00 |
|   |    | 1 | 0.13888E-09 | -0.57266E-10 | -0.80149E-02 | 0.14160E-04  | 0.16592E-02 | 0.00000E 00 |
| 0 | 20 | 2 | 0.22246E-09 | -0.12398E-09 | -0.31482E-02 | -0.51355E-04 | 0.70544E-03 | 0.00000E 00 |
|   |    | 1 | 0.13964E-09 | -0.54348E-10 | -0.77973E-02 | -0.75465E-03 | 0.16000E-02 | 0.00000E 00 |
| 0 | 19 | 2 | 0.22885E-09 | -0.11934E-09 | -0.30431E-02 | -0.30051E-03 | 0.74127E-03 | 0.00000E 00 |
|   |    | 1 | 0.13871E-09 | -0.51312E-10 | -0.71397E-02 | -0.14532E-02 | 0.15734E-02 | 0.00000E 00 |
| 0 | 18 | 2 | 0.23289E-09 | -0.11437E-09 | -0.28024E-02 | -0.50023E-03 | 0.82479E-03 | 0.00000E 00 |
|   |    | 1 | 0.13581E-09 | -0.47568E-10 | -0.58182E-02 | -0.20895E-02 | 0.15822E-02 | 0.00000E 00 |
| 0 | 17 | 2 | 0.23535E-09 | -0.10801E-09 | -0.23771E-02 | -0.62625E-03 | 0.98856E-03 | 0.00000E 00 |
|   |    | 1 | 0.13136E-09 | -0.43945E-10 | -0.41612E-02 | -0.23471E-02 | 0.16505E-02 | 0.00000E 00 |
| 0 | 16 | 2 | 0.23538E-09 | -0.10157E-09 | -0.19269E-02 | -0.55317E-03 | 0.12143E-02 | 0.00000E 00 |
|   |    | 1 | 0.12303E-09 | -0.39109E-10 | -0.18853E-02 | -0.19640E-02 | 0.16646E-02 | 0.00000E 00 |
| 0 | 15 | 2 | 0.23172E-09 | -0.92519E-10 | -0.16119E-02 | -0.61335E-05 | 0.13902E-02 | 0.00000E 00 |
|   |    | 1 | 0.11552E-09 | -0.39521E-10 | -0.11025E-02 | -0.15001E-02 | 0.12842E-02 | 0.00000E 00 |
| 0 | 14 | 2 | 0.22696E-09 | -0.89474E-10 | -0.22716E-02 | 0.35892E-03  | 0.10779E-02 | 0.00000E 00 |
|   |    | 1 | 0.22964E-13 | -0.12107E-09 | -0.91760E-08 | 0.31450E-02  | 0.32665E-02 | 0.00000E 00 |
| 0 | 13 | 2 | 0.32414E-13 | -0.22304E-09 | -0.50840E-08 | 0.13130E-02  | 0.15073E-02 | 0.00000E 00 |
|   |    | 1 | 0.10518E-09 | -0.10196E-09 | -0.31144E-02 | 0.27419E-02  | 0.24246E-02 | 0.00000E 00 |
| 0 | 12 | 2 | 0.15691E-09 | -0.19606E-09 | -0.12872E-02 | 0.11026E-02  | 0.10572E-02 | 0.00000E 00 |
|   |    | 1 | 0.12440E-09 | -0.84963E-10 | -0.48772E-02 | 0.19975E-02  | 0.20035E-02 | 0.00000E 00 |
| 0 | 11 | 2 | 0.19023E-09 | -0.17202E-09 | -0.19698E-02 | 0.73264E-03  | 0.84911E-03 | 0.00000E 00 |
|   |    | 1 | 0.13411E-09 | -0.71892E-10 | -0.60023E-02 | 0.10279E-02  | 0.17284E-02 | 0.00000E 00 |
| 0 | 10 | 2 | 0.21035E-09 | -0.15334E-09 | -0.23496E-02 | 0.29239E-03  | 0.74309E-03 | 0.00000E 00 |
|   |    | 1 | 0.13739E-09 | -0.63492E-10 | -0.63561E-02 | 0.16091E-03  | 0.16022E-02 | 0.00000E 00 |
| 0 | 9  | 2 | 0.22023E-09 | -0.14111E-09 | -0.24127E-02 | -0.76982E-04 | 0.73128E-03 | 0.00000E 00 |
|   |    | 1 | 0.13825E-09 | -0.56492E-10 | -0.61982E-02 | -0.69417E-03 | 0.15446E-02 | 0.00000E 00 |
| 0 | 8  | 2 | 0.22670E-09 | -0.13065E-09 | -0.22648E-02 | -0.42076E-03 | 0.78060E-03 | 0.00000E 00 |
|   |    | 1 | 0.13741E-09 | -0.50397E-10 | -0.55513E-02 | -0.14747E-02 | 0.15505E-02 | 0.00000E 00 |
| 0 | 7  | 2 | 0.23078E-09 | -0.12122E-09 | -0.19252E-02 | -0.71514E-03 | 0.89197E-03 | 0.00000E 00 |
|   |    | 1 | 0.13458E-09 | -0.43786E-10 | -0.41765E-02 | -0.22076E-02 | 0.16443E-02 | 0.00000E 00 |
| 0 | 6  | 2 | 0.23326E-09 | -0.11048E-09 | -0.13025E-02 | -0.94482E-03 | 0.11159E-02 | 0.00000E 00 |
|   |    | 1 | 0.13021E-09 | -0.37907E-10 | -0.24035E-02 | -0.25260E-02 | 0.18432E-02 | 0.00000E 00 |

|   |   |   |             |              |              |              |             |             |
|---|---|---|-------------|--------------|--------------|--------------|-------------|-------------|
| 0 | 5 | 2 | 0.23330E-09 | -0.10030E-09 | -0.59521E-03 | -0.91576E-03 | 0.14436E-02 | 0.00000E 00 |
|   |   | 1 | 0.12190E-09 | -0.30589E-10 | -0.12351E-07 | -0.18353E-02 | 0.20791E-02 | 0.00000E 00 |
| 0 | 4 | 2 | 0.22959E-09 | -0.86406E-10 | -0.14956E-07 | 0.45229E-04  | 0.18178E-02 | 0.00000E 00 |
|   |   | 1 | 0.11381E-09 | -0.25436E-10 | 0.10444E-02  | -0.92073E-03 | 0.17519E-02 | 0.00000E 00 |
| 0 | 3 | 2 | 0.22314E-09 | -0.75369E-10 | -0.46812E-03 | 0.90231E-03  | 0.14786E-02 | 0.00000E 00 |
|   |   | 1 | 0.95828E-10 | -0.17960E-10 | 0.18992E-02  | -0.20405E-03 | 0.11464E-02 | 0.00000E 00 |
| 0 | 2 | 2 | 0.20565E-09 | -0.57548E-10 | -0.17900E-02 | 0.75171E-03  | 0.90329E-03 | 0.00000E 00 |
|   |   | 1 | 0.61481E-10 | -0.72999E-11 | 0.14480E-02  | 0.46507E-03  | 0.48574E-03 | 0.00000E 00 |
| 0 | 1 | 2 | 0.15575E-09 | -0.25866E-10 | -0.22576E-02 | -0.45438E-03 | 0.66732E-03 | 0.00000E 00 |
|   |   | 1 | 0.84819E-14 | -0.33982E-16 | 0.14945E-08  | 0.68720E-03  | 0.56969E-04 | 0.00000E 00 |
|   |   | 2 | 0.32203E-13 | -0.52268E-16 | -0.54164E-08 | -0.11881E-02 | 0.12225E-02 | 0.00000E 00 |

## SHELL ELEMENT STRESSES

| ELEMENT<br>NUMBER | LOAD<br>CASE | MEMBRANE STRESS COMPONENTS |             |             | BENDING MOMENT COMPONENTS |             |             |     |
|-------------------|--------------|----------------------------|-------------|-------------|---------------------------|-------------|-------------|-----|
|                   |              | SXX                        | SYX         | SXY         | MXX                       | MYX         | MYX         | MYX |
| 1                 | 1            | -0.1391E-03                | 0.9043E-03  | 0.2731E-03  | -0.1568E 02               | -0.1529E 02 | -0.2880E 02 |     |
| 1                 | 2            | -0.1973E-03                | 0.1276E-02  | 0.3859E-03  | -0.8043E 01               | -0.8272E 01 | -0.1553E 02 |     |
| 2                 | 1            | -0.3154E-03                | -0.2855E-04 | -0.6368E-04 | -0.4119E 02               | -0.1308E 02 | -0.1895E 02 |     |
| 2                 | 2            | -0.4496E-03                | -0.4205E-04 | -0.8645E-04 | -0.1976E 02               | -0.7063E 01 | -0.9611E 01 |     |
| 3                 | 1            | -0.3074E-03                | -0.5563E-05 | -0.5923E-04 | -0.5560E 02               | -0.1163E 02 | -0.1210E 02 |     |
| 3                 | 2            | -0.4451E-03                | -0.9329E-05 | -0.7758E-04 | -0.2398E 02               | -0.6404E 01 | -0.4917E 01 |     |
| 4                 | 1            | -0.2817E-03                | -0.1006E-04 | -0.4576E-04 | -0.6288E 02               | -0.1070E 02 | -0.7355E 01 |     |
| 4                 | 2            | -0.4172E-03                | -0.1534E-04 | -0.5680E-04 | -0.2510E 02               | -0.6158E 01 | -0.9076E 00 |     |
| 5                 | 1            | -0.2559E-03                | -0.8055E-05 | -0.3500E-04 | -0.6302E 02               | -0.1013E 02 | -0.3772E 01 |     |
| 5                 | 2            | -0.3897E-03                | -0.1224E-04 | -0.4038E-04 | -0.2350E 02               | -0.6131E 01 | 0.2700E 01  |     |
| 6                 | 1            | -0.2334E-03                | -0.6323E-05 | -0.2645E-04 | -0.5702E 02               | -0.9684E 01 | -0.6393E 00 |     |
| 6                 | 2            | -0.3680E-03                | -0.9624E-05 | -0.2737E-04 | -0.1965E 02               | -0.6271E 01 | 0.6230E 01  |     |
| 7                 | 1            | -0.2122E-03                | -0.4499E-05 | -0.1930E-04 | -0.4281E 02               | -0.9423E 01 | 0.2849E 01  |     |
| 7                 | 2            | -0.3504E-03                | -0.7080E-05 | -0.1624E-04 | -0.1197E 02               | -0.6668E 01 | 0.1009E 02  |     |

|    |   |             |             |             |             |             |             |
|----|---|-------------|-------------|-------------|-------------|-------------|-------------|
| 8  | 1 | -0.1946E-03 | -0.3189E-05 | -0.1365E-04 | -0.1911E 02 | -0.9417E 01 | 0.5243E 01  |
| 8  | 2 | -0.3403E-03 | -0.5517E-05 | -0.6927E-05 | 0.1547E 01  | -0.7525E 01 | 0.1216E 02  |
| 9  | 1 | -0.1768E-03 | -0.1185E-05 | -0.9736E-05 | 0.2102E 02  | -0.9134E 01 | 0.8229E 01  |
| 9  | 2 | -0.3342E-03 | -0.3699E-05 | 0.1525E-05  | 0.3042E 02  | -0.8346E 01 | 0.1436E 02  |
| 10 | 1 | 0.6927E-04  | 0.7696E-03  | 0.2157E-03  | -0.1354E 02 | -0.4119E 02 | -0.1869E 02 |
| 10 | 2 | 0.9593E-04  | 0.1082E-02  | 0.3080E-03  | -0.6716E 01 | -0.2074E 02 | -0.9832E 01 |
| 11 | 1 | 0.1021E-03  | 0.1839E-03  | 0.1354E-03  | -0.3644E 02 | -0.3643E 02 | -0.1255E 02 |
| 11 | 2 | 0.1375E-03  | 0.2530E-03  | 0.2011E-03  | -0.1611E 02 | -0.1751E 02 | -0.6831E 01 |
| 12 | 1 | -0.5375E-05 | 0.1615E-04  | 0.9026E-05  | -0.5300E 02 | -0.3430E 02 | -0.7707E 01 |
| 12 | 2 | -0.2012E-04 | 0.1731E-04  | 0.2765E-04  | -0.2023E 02 | -0.1600E 02 | -0.3657E 01 |
| 13 | 1 | -0.6098E-04 | -0.9839E-05 | -0.2502E-04 | -0.6200E 02 | -0.3285E 02 | -0.5095E 01 |
| 13 | 2 | -0.1048E-03 | -0.1811E-04 | -0.1686E-04 | -0.2121E 02 | -0.1537E 02 | -0.8121E 00 |
| 14 | 1 | -0.8818E-04 | -0.1506E-04 | -0.3224E-04 | -0.6294E 02 | -0.3162E 02 | -0.3281E 01 |
| 14 | 2 | -0.1491E-03 | -0.2455E-04 | -0.2463E-04 | -0.1973E 02 | -0.1538E 02 | 0.1848E 01  |
| 15 | 1 | -0.1028E-03 | -0.1460E-04 | -0.3151E-04 | -0.5721E 02 | -0.3034E 02 | -0.1938E 01 |
| 15 | 2 | -0.1760E-03 | -0.2328E-04 | -0.2172E-04 | -0.1611E 02 | -0.1589E 02 | 0.4384E 01  |
| 16 | 1 | -0.1106E-03 | -0.1203E-04 | -0.2743E-04 | -0.4273E 02 | -0.2875E 02 | -0.4828E 00 |
| 16 | 2 | -0.1942E-03 | -0.1948E-04 | -0.1433E-04 | -0.9415E 01 | -0.1706E 02 | 0.6971E 01  |

|    |   |             |             |             |             |             |             |
|----|---|-------------|-------------|-------------|-------------|-------------|-------------|
| 17 | 1 | -0.1133E-03 | -0.8452E-05 | -0.2288E-04 | -0.2013E 02 | -0.2728E 02 | 0.7194E 00  |
| 17 | 2 | -0.2056E-03 | -0.1502E-04 | -0.6416E-05 | 0.6883E 00  | -0.1936E 02 | 0.8007E 01  |
| 18 | 1 | -0.1117E-03 | -0.5052E-05 | -0.1876E-04 | 0.9182E 01  | -0.2472E 02 | -0.2720E 00 |
| 18 | 2 | -0.2109E-03 | -0.1139E-04 | 0.3869E-06  | 0.1556E 02  | -0.2104E 02 | 0.5138E 01  |
| 19 | 1 | 0.4139E-04  | 0.6244E-03  | 0.1308E-03  | -0.1205E 02 | -0.5707E 02 | -0.1142E 02 |
| 19 | 2 | 0.5673E-04  | 0.8692E-03  | 0.1912E-03  | -0.5924E 01 | -0.2604E 02 | -0.5298E 01 |
| 20 | 1 | 0.9519E-04  | 0.2824E-03  | 0.1537E-03  | -0.3426E 02 | -0.5450E 02 | -0.7372E 01 |
| 20 | 2 | 0.1285E-03  | 0.3856E-03  | 0.2325E-03  | -0.1423E 02 | -0.2278E 02 | -0.3862E 01 |
| 21 | 1 | 0.8353E-04  | 0.1011E-03  | 0.8309E-04  | -0.5315E 02 | -0.5455E 02 | -0.4272E 01 |
| 21 | 2 | 0.1072E-03  | 0.1322E-03  | 0.1385E-03  | -0.1811E 02 | -0.2114E 02 | -0.2179E 01 |
| 22 | 1 | 0.4424E-04  | 0.2449E-04  | 0.3018E-04  | -0.6420E 02 | -0.5447E 02 | -0.2893E 01 |
| 22 | 2 | 0.4726E-04  | 0.2647E-04  | 0.6761E-04  | -0.1899E 02 | -0.2044E 02 | -0.5943E 00 |
| 23 | 1 | 0.1200E-04  | -0.6962E-06 | 0.5368E-05  | -0.6574E 02 | -0.5333E 02 | -0.2148E 01 |
| 23 | 2 | -0.2052E-05 | -0.7206E-05 | 0.3509E-04  | -0.1757E 02 | -0.2057E 02 | 0.8884E 00  |
| 24 | 1 | -0.1314E-04 | -0.1040E-04 | -0.6828E-05 | -0.6025E 02 | -0.5107E 02 | -0.1707E 01 |
| 24 | 2 | -0.4107E-04 | -0.1951E-04 | 0.1965E-04  | -0.1419E 02 | -0.2128E 02 | 0.2302E 01  |
| 25 | 1 | -0.3357E-04 | -0.1216E-04 | -0.1263E-04 | -0.4484E 02 | -0.4698E 02 | -0.1302E 01 |
| 25 | 2 | -0.7343E-04 | -0.2105E-04 | 0.1264E-04  | -0.8290E 01 | -0.2283E 02 | 0.3665E 01  |

|    |   |             |             |             |             |             |             |
|----|---|-------------|-------------|-------------|-------------|-------------|-------------|
| 26 | 1 | -0.4869E-04 | -0.9667E-05 | -0.1549E-04 | -0.2177E 02 | -0.4170E 02 | -0.6214E 00 |
| 26 | 2 | -0.9779E-04 | -0.1726E-04 | 0.8839E-05  | -0.3470E 00 | -0.2525E 02 | 0.4081E 01  |
| 27 | 1 | -0.5754E-04 | -0.4556E-05 | -0.1799E-04 | 0.3955E 01  | -0.3541E 02 | -0.7688E 00 |
| 27 | 2 | -0.1116E-03 | -0.1075E-04 | 0.4422E-05  | 0.8900E 01  | -0.2759E 02 | 0.2567E 01  |
| 28 | 1 | 0.2669E-04  | 0.5300E-03  | 0.8487E-04  | -0.1116E 02 | -0.6463E 02 | -0.6530E 01 |
| 28 | 2 | 0.3611E-04  | 0.7269E-03  | 0.1284E-03  | -0.5637E 01 | -0.2782E 02 | -0.1593E 01 |
| 29 | 1 | 0.7332E-04  | 0.3069E-03  | 0.1282E-03  | -0.3289E 02 | -0.6372E 02 | -0.4602E 01 |
| 29 | 2 | 0.9833E-04  | 0.4139E-03  | 0.2005E-03  | -0.1341E 02 | -0.2437E 02 | -0.1339E 01 |
| 30 | 1 | 0.8930E-04  | 0.1516E-03  | 0.9885E-04  | -0.5329E 02 | -0.6579E 02 | -0.2753E 01 |
| 30 | 2 | 0.1170E-03  | 0.1989E-03  | 0.1648E-03  | -0.1715E 02 | -0.2261E 02 | -0.8746E 00 |
| 31 | 1 | 0.7966E-04  | 0.6260E-04  | 0.6199E-04  | -0.6564E 02 | -0.6704E 02 | -0.1590E 01 |
| 31 | 2 | 0.1005E-03  | 0.7711E-04  | 0.1162E-03  | -0.1795E 02 | -0.2186E 02 | -0.4299E 00 |
| 32 | 1 | 0.5926E-04  | 0.2130E-04  | 0.3595E-04  | -0.6755E 02 | -0.6610E 02 | -0.8095E 00 |
| 32 | 2 | 0.6969E-04  | 0.2160E-04  | 0.8142E-04  | -0.1653E 02 | -0.2201E 02 | -0.1238E-01 |
| 33 | 1 | 0.3745E-04  | 0.1610E-05  | 0.1915E-04  | -0.6218E 02 | -0.6322E 02 | -0.1932E 00 |
| 33 | 2 | 0.3744E-04  | -0.3982E-05 | 0.5902E-04  | -0.1325E 02 | -0.2286E 02 | 0.4151E 00  |
| 34 | 1 | 0.1516E-04  | -0.5708E-05 | 0.7438E-05  | -0.4614E 02 | -0.5730E 02 | 0.4427E 00  |
| 34 | 2 | 0.4934E-05  | -0.1234E-04 | 0.4300E-04  | -0.7738E 01 | -0.2457E 02 | 0.8768E 00  |



|    |   |             |             |             |             |             |             |
|----|---|-------------|-------------|-------------|-------------|-------------|-------------|
| 35 | 1 | -0.4728E-05 | -0.4833E-05 | -0.1649E-05 | -0.2248E 02 | -0.4923E 02 | 0.1130E 01  |
| 35 | 2 | -0.2342E-04 | -0.9442E-05 | 0.2922E-04  | -0.7743E 00 | -0.2705E 02 | 0.1142E 01  |
| 36 | 1 | -0.2048E-04 | -0.8250E-06 | -0.1205E-04 | 0.1941E 01  | -0.4012E 02 | 0.1005E 01  |
| 36 | 2 | -0.4339E-04 | -0.3811E-05 | 0.1065E-04  | 0.6434E 01  | -0.2923E 02 | 0.4238E 00  |
| 37 | 1 | 0.2054E-04  | 0.4713E-03  | 0.5896E-04  | -0.1066E 02 | -0.6454E 02 | -0.3066E 01 |
| 37 | 2 | 0.2732E-04  | 0.6348E-03  | 0.9361E-04  | -0.5577E 01 | -0.2670E 02 | 0.1536E 01  |
| 38 | 1 | 0.5979E-04  | 0.3054E-03  | 0.1013E-03  | -0.3177E 02 | -0.6435E 02 | -0.2693E 01 |
| 38 | 2 | 0.7915E-04  | 0.4062E-03  | 0.1654E-03  | -0.1331E 02 | -0.2336E 02 | 0.9364E 00  |
| 39 | 1 | 0.8350E-04  | 0.1735E-03  | 0.9329E-04  | -0.5232E 02 | -0.6690E 02 | -0.1811E 01 |
| 39 | 2 | 0.1095E-03  | 0.2266E-03  | 0.1593E-03  | -0.1709E 02 | -0.2165E 02 | 0.3090E 00  |
| 40 | 1 | 0.8667E-04  | 0.8677E-04  | 0.7227E-04  | -0.6485E 02 | -0.6849E 02 | -0.6767E 00 |
| 40 | 2 | 0.1125E-03  | 0.1092E-03  | 0.1322E-03  | -0.1788E 02 | -0.2088E 02 | -0.2819E 00 |
| 41 | 1 | 0.7689E-04  | 0.4003E-04  | 0.5311E-04  | -0.6685E 02 | -0.6767E 02 | 0.4894E 00  |
| 41 | 2 | 0.9829E-04  | 0.4670E-04  | 0.1065E-03  | -0.1642E 02 | -0.2097E 02 | -0.8228E 00 |
| 42 | 1 | 0.6127E-04  | 0.1452E-04  | 0.3778E-04  | -0.6156E 02 | -0.6464E 02 | 0.1640E 01  |
| 42 | 2 | 0.7647E-04  | 0.1352E-04  | 0.8569E-04  | -0.1304E 02 | -0.2170E 02 | -0.1270E 01 |
| 43 | 1 | 0.4145E-04  | 0.3512E-05  | 0.2476E-04  | -0.4554E 02 | -0.5832E 02 | 0.2720E 01  |
| 43 | 2 | 0.4909E-04  | 0.9886E-06  | 0.6739E-04  | -0.7397E 01 | -0.2328E 02 | -0.1562E 01 |

|    |   |             |            |             |             |             |             |
|----|---|-------------|------------|-------------|-------------|-------------|-------------|
| 44 | 1 | 0.2090E-04  | 0.2999E-05 | 0.1256E-04  | -0.2200E 02 | -0.4964E 02 | 0.3558E 01  |
| 44 | 2 | 0.2128E-04  | 0.3494E-05 | 0.4840E-04  | -0.3399E 00 | -0.2556E 02 | -0.1425E 01 |
| 45 | 1 | 0.1899E-05  | 0.9421E-05 | -0.3338E-05 | 0.1946E 01  | -0.3923E 02 | 0.3961E 01  |
| 45 | 2 | -0.1908E-05 | 0.1521E-04 | 0.2001E-04  | 0.6963E 01  | -0.2699E 02 | -0.7291E 00 |
| 46 | 1 | 0.1783E-04  | 0.4288E-03 | 0.3812E-04  | -0.1021E 02 | -0.5867E 02 | -0.3052E-01 |
| 46 | 2 | 0.2300E-04  | 0.5642E-03 | 0.6626E-04  | -0.5652E 01 | -0.2360E 02 | 0.4598E 01  |
| 47 | 1 | 0.5335E-04  | 0.2955E-03 | 0.7501E-04  | -0.3064E 02 | -0.5876E 02 | -0.1256E 01 |
| 47 | 2 | 0.6886E-04  | 0.3869E-03 | 0.1311E-03  | -0.1367E 02 | -0.2039E 02 | 0.3116E 01  |
| 48 | 1 | 0.7885E-04  | 0.1812E-03 | 0.8105E-04  | -0.5030E 02 | -0.6157E 02 | -0.1200E 01 |
| 48 | 2 | 0.1026E-03  | 0.2351E-03 | 0.1434E-03  | -0.1755E 02 | -0.1877E 02 | 0.1466E 01  |
| 49 | 1 | 0.8784E-04  | 0.1008E-03 | 0.7372E-04  | -0.6226E 02 | -0.6328E 02 | 0.4366E-01  |
| 49 | 2 | 0.1154E-03  | 0.1280E-03 | 0.1341E-03  | -0.1841E 02 | -0.1801E 02 | -0.8953E-01 |
| 50 | 1 | 0.8445E-04  | 0.5376E-04 | 0.6290E-04  | -0.6412E 02 | -0.6255E 02 | 0.1749E 01  |
| 50 | 2 | 0.1122E-03  | 0.6527E-04 | 0.1194E-03  | -0.1684E 02 | -0.1796E 02 | -0.1507E 01 |
| 51 | 1 | 0.7463E-04  | 0.2602E-04 | 0.5191E-04  | -0.5892E 02 | -0.5965E 02 | 0.3563E 01  |
| 51 | 2 | 0.1004E-03  | 0.2925E-04 | 0.1045E-03  | -0.1322E 02 | -0.1843E 02 | -0.2773E 01 |
| 52 | 1 | 0.5848E-04  | 0.1333E-04 | 0.4069E-04  | -0.4338E 02 | -0.5351E 02 | 0.5216E 01  |
| 52 | 2 | 0.7963E-04  | 0.1543E-04 | 0.8874E-04  | -0.7052E 01 | -0.1961E 02 | -0.3828E 01 |

|    |   |            |            |            |             |             |             |
|----|---|------------|------------|------------|-------------|-------------|-------------|
| 53 | 1 | 0.3862E-04 | 0.1346E-04 | 0.2775E-04 | -0.2047E 02 | -0.4505E 02 | 0.6269E 01  |
| 53 | 2 | 0.5353E-04 | 0.2105E-04 | 0.6829E-04 | 0.9281E 00  | -0.2161E 02 | -0.3942E 01 |
| 54 | 1 | 0.1727E-04 | 0.2239E-04 | 0.7087E-05 | 0.2902E 01  | -0.3542E 02 | 0.7124E 01  |
| 54 | 2 | 0.2738E-04 | 0.3972E-04 | 0.3106E-04 | 0.9156E 01  | -0.2342E 02 | -0.1878E 01 |
| 55 | 1 | 0.1909E-04 | 0.3971E-03 | 0.1429E-04 | -0.9920E 01 | -0.4364E 02 | 0.3625E 01  |
| 55 | 2 | 0.2275E-04 | 0.5040E-03 | 0.3675E-04 | -0.5991E 01 | -0.1646E 02 | 0.8172E 01  |
| 56 | 1 | 0.5451E-04 | 0.2759E-03 | 0.4478E-04 | -0.2908E 02 | -0.4343E 02 | 0.3298E 00  |
| 56 | 2 | 0.6670E-04 | 0.3546E-03 | 0.9168E-04 | -0.1472E 02 | -0.1404E 02 | 0.5448E 01  |
| 57 | 1 | 0.7758E-04 | 0.1753E-03 | 0.6491E-04 | -0.4624E 02 | -0.4528E 02 | -0.6938E 00 |
| 57 | 2 | 0.9865E-04 | 0.2265E-03 | 0.1200E-03 | -0.1890E 02 | -0.1298E 02 | 0.2650E 01  |
| 58 | 1 | 0.8534E-04 | 0.1054E-03 | 0.7097E-04 | -0.5637E 02 | -0.4636E 02 | 0.7787E 00  |
| 58 | 2 | 0.1131E-03 | 0.1346E-03 | 0.1273E-03 | -0.1985E 02 | -0.1242E 02 | 0.1990E 00  |
| 59 | 1 | 0.8514E-04 | 0.6295E-04 | 0.6820E-04 | -0.5775E 02 | -0.4569E 02 | 0.2963E 01  |
| 59 | 2 | 0.1167E-03 | 0.7781E-04 | 0.1232E-03 | -0.1813E 02 | -0.1212E 02 | -0.2022E 01 |
| 60 | 1 | 0.8042E-04 | 0.3541E-04 | 0.6258E-04 | -0.5272E 02 | -0.4336E 02 | 0.5392E 01  |
| 60 | 2 | 0.1142E-03 | 0.4165E-04 | 0.1158E-03 | -0.1410E 02 | -0.1193E 02 | -0.4093E 01 |
| 61 | 1 | 0.7061E-04 | 0.2275E-04 | 0.5656E-04 | -0.3854E 02 | -0.3867E 02 | 0.7630E 01  |
| 61 | 2 | 0.1047E-03 | 0.2880E-04 | 0.1085E-03 | -0.6925E 01 | -0.1207E 02 | -0.6031E 01 |

|    |   |            |            |             |             |             |             |
|----|---|------------|------------|-------------|-------------|-------------|-------------|
| 62 | 1 | 0.5187E-04 | 0.2697E-04 | 0.4744E-04  | -0.1728E 02 | -0.3238E 02 | 0.8742E 01  |
| 62 | 2 | 0.7989E-04 | 0.4409E-04 | 0.9483E-04  | 0.3158E 01  | -0.1296E 02 | -0.6536E 01 |
| 63 | 1 | 0.2632E-04 | 0.4467E-04 | 0.2255E-04  | 0.5949E 01  | -0.2526E 02 | 0.9483E 01  |
| 63 | 2 | 0.4485E-04 | 0.8193E-04 | 0.4892E-04  | 0.1504E 02  | -0.1433E 02 | -0.4054E 01 |
| 64 | 1 | 0.2775E-04 | 0.3867E-03 | -0.2112E-04 | -0.9882E 01 | -0.1725E 02 | 0.6539E 01  |
| 64 | 2 | 0.3002E-04 | 0.4670E-03 | -0.3447E-05 | -0.6862E 01 | -0.3388E 01 | 0.1072E 02  |
| 65 | 1 | 0.6926E-04 | 0.2404E-03 | 0.1636E-04  | -0.2758E 02 | -0.1822E 02 | 0.1869E 01  |
| 65 | 2 | 0.7798E-04 | 0.3056E-03 | 0.5369E-04  | -0.1698E 02 | -0.3662E 01 | 0.6836E 01  |
| 66 | 1 | 0.7160E-04 | 0.1530E-03 | 0.5574E-04  | -0.4075E 02 | -0.1987E 02 | 0.7653E-01  |
| 66 | 2 | 0.8956E-04 | 0.1990E-03 | 0.1010E-03  | -0.2118E 02 | -0.4274E 01 | 0.3205E 01  |
| 67 | 1 | 0.7494E-04 | 0.1013E-03 | 0.6765E-04  | -0.4804E 02 | -0.2065E 02 | 0.1557E 01  |
| 67 | 2 | 0.1008E-03 | 0.1298E-03 | 0.1158E-03  | -0.2210E 02 | -0.4394E 01 | 0.4654E 00  |
| 68 | 1 | 0.7646E-04 | 0.6598E-04 | 0.6960E-04  | -0.4861E 02 | -0.2024E 02 | 0.3872E 01  |
| 68 | 2 | 0.1086E-03 | 0.8194E-04 | 0.1182E-03  | -0.2016E 02 | -0.3805E 01 | -0.1979E 01 |
| 69 | 1 | 0.7573E-04 | 0.4097E-04 | 0.6768E-04  | -0.4383E 02 | -0.1869E 02 | 0.6551E 01  |
| 69 | 2 | 0.1132E-03 | 0.4838E-04 | 0.1160E-03  | -0.1577E 02 | -0.2479E 01 | -0.4370E 01 |
| 70 | 1 | 0.7346E-04 | 0.2485E-04 | 0.6503E-04  | -0.3176E 02 | -0.1563E 02 | 0.8846E 01  |
| 70 | 2 | 0.1163E-03 | 0.2857E-04 | 0.1140E-03  | -0.7483E 01 | -0.3912E 00 | -0.6844E 01 |

|    |   |            |            |             |             |             |             |
|----|---|------------|------------|-------------|-------------|-------------|-------------|
| 71 | 1 | 0.7049E-04 | 0.3610E-04 | 0.7152E-04  | -0.1287E 02 | -0.1155E 02 | 0.9713E 01  |
| 71 | 2 | 0.1196E-03 | 0.5869E-04 | 0.1297E-03  | 0.5495E 01  | 0.1744E 01  | -0.8290E 01 |
| 72 | 1 | 0.2974E-04 | 0.8089E-04 | 0.5107E-04  | 0.1171E 02  | -0.6586E 01 | 0.1025E 02  |
| 72 | 2 | 0.5249E-04 | 0.1510E-03 | 0.9230E-04  | 0.2570E 02  | 0.4209E 01  | -0.5971E 01 |
| 73 | 1 | 0.4307E-04 | 0.4027E-03 | -0.8425E-04 | -0.9434E 01 | 0.2478E 02  | 0.8862E 01  |
| 73 | 2 | 0.4361E-04 | 0.4597E-03 | -0.6921E-04 | -0.7517E 01 | 0.2283E 02  | 0.1233E 02  |
| 74 | 1 | 0.4071E-04 | 0.1636E-03 | 0.3158E-04  | -0.2520E 02 | 0.1193E 02  | 0.2407E 00  |
| 74 | 2 | 0.4750E-04 | 0.2172E-03 | 0.5858E-04  | -0.1887E 02 | 0.1040E 02  | 0.4260E 01  |
| 75 | 1 | 0.4398E-04 | 0.1311E-03 | 0.5258E-04  | -0.3474E 02 | 0.6716E 01  | -0.1765E 00 |
| 75 | 2 | 0.5822E-04 | 0.1701E-03 | 0.8659E-04  | -0.2335E 02 | 0.5615E 01  | 0.2118E 01  |
| 76 | 1 | 0.4964E-04 | 0.9249E-04 | 0.6396E-04  | -0.3921E 02 | 0.4452E 01  | 0.1298E 01  |
| 76 | 2 | 0.7143E-04 | 0.1182E-03 | 0.1020E-03  | -0.2401E 02 | 0.3960E 01  | 0.8465E-01  |
| 77 | 1 | 0.5137E-04 | 0.6542E-04 | 0.6693E-04  | -0.3827E 02 | 0.4226E 01  | 0.4136E 01  |
| 77 | 2 | 0.7853E-04 | 0.8089E-04 | 0.1063E-03  | -0.2137E 02 | 0.4778E 01  | -0.1127E 01 |
| 78 | 1 | 0.5537E-04 | 0.4429E-04 | 0.6610E-04  | -0.3430E 02 | 0.5114E 01  | 0.7328E 01  |
| 78 | 2 | 0.8826E-04 | 0.5199E-04 | 0.1055E-03  | -0.1717E 02 | 0.7379E 01  | -0.2243E 01 |
| 79 | 1 | 0.5751E-04 | 0.2801E-04 | 0.6368E-04  | -0.2453E 02 | 0.8003E 01  | 0.9539E 01  |
| 79 | 2 | 0.9635E-04 | 0.3115E-04 | 0.1028E-03  | -0.8356E 01 | 0.1318E 02  | -0.4241E 01 |

|    |   |             |             |             |             |             |             |
|----|---|-------------|-------------|-------------|-------------|-------------|-------------|
| 80 | 1 | 0.5872E-04  | 0.6761E-05  | 0.6287E-04  | -0.8086E 01 | 0.1323E 02  | 0.1056E 02  |
| 80 | 2 | 0.1043E-03  | -0.6738E-06 | 0.1036E-03  | 0.7855E 01  | 0.2287E 02  | -0.5500E 01 |
|    |   |             |             |             |             |             |             |
| 81 | 1 | 0.5243E-04  | 0.1587E-03  | 0.1183E-03  | 0.2092E 02  | 0.2219E 02  | 0.6710E 01  |
| 81 | 2 | 0.9972E-04  | 0.3003E-03  | 0.2119E-03  | 0.4210E 02  | 0.3884E 02  | -0.1262E 02 |
|    |   |             |             |             |             |             |             |
| 82 | 1 | -0.1533E-03 | -0.2228E-05 | 0.3103E-04  | 0.3081E 02  | 0.2138E 01  | -0.2517E 02 |
| 82 | 2 | -0.3017E-03 | -0.1551E-04 | 0.8678E-04  | 0.2707E 02  | 0.2122E 01  | -0.2401E 02 |
|    |   |             |             |             |             |             |             |
| 83 | 1 | -0.1029E-03 | -0.3344E-04 | -0.7049E-04 | 0.2670E 02  | -0.1440E 02 | 0.1078E 01  |
| 83 | 2 | -0.2713E-03 | -0.6034E-04 | -0.1452E-03 | 0.7850E 01  | -0.1997E 02 | -0.5270E 01 |
|    |   |             |             |             |             |             |             |
| 84 | 1 | -0.1023E-03 | -0.2051E-05 | -0.2339E-04 | 0.2736E 02  | -0.2077E 02 | -0.4234E 01 |
| 84 | 2 | -0.2039E-03 | -0.8265E-05 | -0.7808E-05 | 0.2341E 02  | -0.2262E 02 | 0.5248E 00  |
|    |   |             |             |             |             |             |             |
| 85 | 1 | -0.1108E-04 | -0.8956E-04 | -0.2796E-04 | 0.2252E 01  | 0.1233E 02  | 0.1943E 02  |
| 85 | 2 | -0.5249E-04 | -0.1566E-03 | -0.9095E-04 | -0.2139E 01 | -0.4187E 01 | 0.1077E 02  |
|    |   |             |             |             |             |             |             |
| 86 | 1 | -0.5194E-04 | -0.1802E-04 | -0.3113E-04 | 0.1829E 02  | -0.2699E 02 | 0.8338E 01  |
| 86 | 2 | -0.1168E-03 | -0.2347E-04 | -0.2259E-04 | 0.7641E 01  | -0.2649E 02 | 0.7843E 01  |
|    |   |             |             |             |             |             |             |
| 87 | 1 | -0.5445E-04 | 0.1766E-04  | -0.1502E-04 | 0.6345E 01  | -0.1060E 02 | -0.1790E 02 |
| 87 | 2 | -0.7318E-04 | 0.5908E-05  | -0.1276E-04 | -0.1027E 02 | -0.1735E 02 | -0.1074E 02 |
|    |   |             |             |             |             |             |             |
| 88 | 1 | -0.6995E-04 | -0.2261E-05 | -0.1307E-04 | 0.1332E 02  | -0.6431E 01 | -0.8018E 01 |
| 88 | 2 | -0.1803E-03 | -0.1057E-05 | 0.9753E-05  | -0.1962E 02 | -0.1326E 02 | -0.2340E 01 |

|    |   |             |             |             |          |    |          |    |          |    |
|----|---|-------------|-------------|-------------|----------|----|----------|----|----------|----|
| 89 | 1 | -0.2519E-04 | 0.1350E-03  | -0.5281E-04 | 0.4349E  | 01 | -0.2237E | 01 | -0.5617E | 01 |
| 89 | 2 | -0.7442E-04 | 0.5355E-03  | -0.1750E-03 | -0.1228E | 02 | -0.1348E | 02 | 0.8027E  | 01 |
| 90 | 1 | -0.3077E-04 | 0.1580E-04  | -0.1802E-04 | 0.1458E  | 02 | -0.2982E | 02 | -0.8854E | 01 |
| 90 | 2 | -0.4343E-04 | 0.1597E-04  | -0.6476E-05 | 0.4019E  | 01 | -0.2783E | 02 | -0.7426E | 01 |
| 91 | 1 | -0.5481E-05 | -0.1473E-04 | -0.5048E-04 | 0.1430E  | 02 | -0.2727E | 02 | 0.1098E  | 02 |
| 91 | 2 | -0.1030E-04 | -0.1736E-04 | -0.7161E-04 | -0.2600E | 01 | -0.2997E | 02 | 0.6794E  | 01 |
| 92 | 1 | -0.1107E-04 | 0.1308E-04  | -0.2461E-04 | 0.1081E  | 02 | -0.3455E | 02 | 0.3291E  | 01 |
| 92 | 2 | -0.1321E-04 | 0.2230E-04  | -0.2089E-04 | 0.5197E  | 01 | -0.2894E | 02 | 0.1360E  | 00 |
| 93 | 1 | 0.2182E-04  | -0.3558E-04 | 0.1209E-04  | -0.9835E | 01 | 0.1322E  | 02 | 0.1479E  | 02 |
| 93 | 2 | 0.1581E-04  | -0.3234E-04 | 0.2289E-04  | -0.1424E | 02 | -0.2627E | 01 | 0.8949E  | 01 |
| 94 | 1 | 0.1122E-04  | 0.1501E-04  | -0.1964E-04 | 0.1212E  | 02 | -0.2283E | 02 | 0.1488E  | 02 |
| 94 | 2 | 0.2370E-04  | 0.3093E-04  | -0.1608E-04 | 0.6524E  | 01 | -0.2164E | 02 | 0.8196E  | 01 |
| 95 | 1 | -0.1141E-04 | 0.4298E-04  | -0.4093E-04 | 0.1702E  | 02 | -0.2480E | 02 | -0.4505E | 01 |
| 95 | 2 | 0.1860E-04  | 0.7412E-04  | -0.7481E-04 | 0.1418E  | 00 | -0.2363E | 02 | -0.2869E | 01 |
| 96 | 1 | 0.1134E-04  | 0.1533E-04  | -0.5475E-04 | 0.1379E  | 02 | -0.9758E | 01 | 0.3306E  | 00 |
| 96 | 2 | 0.8167E-04  | 0.8411E-04  | -0.1050E-03 | -0.1668E | 02 | -0.2213E | 02 | 0.5890E  | 00 |
| 97 | 1 | 0.1094E-04  | 0.9330E-04  | -0.4860E-04 | 0.4605E  | 01 | -0.2131E | 01 | -0.1000E | 01 |
| 97 | 2 | 0.5834E-04  | 0.4376E-03  | -0.1225E-03 | -0.1119E | 02 | -0.2404E | 02 | -0.4353E | 00 |

|     |   |             |             |             |             |             |             |
|-----|---|-------------|-------------|-------------|-------------|-------------|-------------|
| 98  | 1 | 0.7057E-05  | 0.5777E-04  | -0.1132E-04 | 0.2287E 02  | -0.2036E 02 | 0.1300E 01  |
| 98  | 2 | 0.2197E-04  | 0.1091E-03  | -0.2313E-04 | 0.1671E 02  | -0.1366E 02 | -0.4533E 01 |
| 99  | 1 | 0.5707E-04  | 0.6218E-05  | -0.4678E-04 | 0.4870E 01  | -0.6550E 01 | 0.1881E 02  |
| 99  | 2 | 0.1460E-03  | 0.1506E-04  | -0.8342E-04 | -0.5690E 01 | -0.1231E 02 | 0.1070E 02  |
| 100 | 1 | 0.1267E-04  | 0.1127E-03  | -0.2715E-04 | 0.2114E 02  | -0.1279E 02 | 0.1308E 02  |
| 100 | 2 | 0.3546E-04  | 0.2170E-03  | -0.5986E-04 | 0.2624E 02  | -0.3586E 01 | 0.1045E 01  |
| 101 | 1 | 0.4409E-04  | 0.6975E-05  | 0.4817E-04  | -0.5956E 01 | 0.2838E 02  | -0.5378E 01 |
| 101 | 2 | 0.1136E-03  | 0.1738E-04  | 0.9980E-04  | 0.8751E 00  | 0.1734E 02  | -0.9239E 01 |
| 102 | 1 | 0.1167E-03  | 0.1145E-03  | -0.1155E-03 | 0.2288E 02  | 0.3026E 02  | 0.1877E 02  |
| 102 | 2 | 0.2365E-03  | 0.2183E-03  | -0.2340E-03 | 0.3904E 02  | 0.4259E 02  | 0.1344E 02  |
| 103 | 1 | -0.5658E-05 | 0.6532E-04  | -0.3327E-04 | 0.3169E 02  | -0.1548E 02 | 0.7450E 01  |
| 103 | 2 | -0.8355E-05 | 0.1419E-03  | -0.7061E-04 | 0.2442E 02  | -0.7301E 01 | 0.1040E 02  |
| 104 | 1 | 0.2421E-04  | 0.1821E-04  | -0.4547E-04 | 0.1083E 02  | 0.3878E 00  | 0.6320E 01  |
| 104 | 2 | 0.8316E-04  | 0.9143E-04  | -0.1112E-03 | -0.1832E 02 | -0.1079E 01 | 0.2942E 01  |
| 105 | 1 | 0.6052E-05  | 0.4527E-04  | -0.3329E-04 | 0.3491E 01  | -0.1049E 01 | 0.2809E 01  |
| 105 | 2 | 0.4377E-04  | 0.3359E-03  | -0.3246E-04 | -0.1220E 02 | 0.1332E 01  | -0.1007E 02 |
| 106 | 1 | -0.3229E-04 | -0.5706E-04 | -0.8994E-04 | -0.7701E 01 | 0.4341E 02  | -0.1585E 02 |
| 106 | 2 | -0.2992E-04 | -0.2314E-05 | -0.7743E-04 | -0.6787E 01 | 0.2889E 02  | -0.1169E 02 |



|     |   |             |             |             |             |             |             |
|-----|---|-------------|-------------|-------------|-------------|-------------|-------------|
| 107 | 1 | 0.1631E-04  | -0.9227E-04 | -0.1092E-04 | 0.1390E 02  | 0.8661E 00  | -0.2100E 02 |
| 107 | 2 | 0.1656E-04  | -0.5556E-04 | -0.2225E-04 | 0.3230E 01  | -0.1087E 02 | -0.9505E 01 |
|     |   |             |             |             |             |             |             |
| 108 | 1 | 0.1380E-04  | 0.1428E-03  | -0.4753E-04 | -0.3028E 01 | 0.1056E 02  | -0.2594E 02 |
| 108 | 2 | 0.1091E-04  | 0.1933E-03  | -0.5544E-04 | -0.8796E 01 | 0.7395E 01  | -0.1827E 02 |
|     |   |             |             |             |             |             |             |
| 109 | 1 | -0.9703E-05 | 0.4605E-04  | 0.1808E-04  | -0.1191E 02 | 0.2994E 02  | 0.2686E 01  |
| 109 | 2 | 0.6376E-05  | 0.7033E-04  | 0.3789E-04  | -0.1177E 02 | 0.8395E 01  | -0.8126E 00 |
|     |   |             |             |             |             |             |             |
| 110 | 1 | -0.3558E-05 | 0.1207E-03  | 0.3593E-04  | -0.2755E 02 | 0.2218E 02  | -0.3565E 01 |
| 110 | 2 | 0.7400E-05  | 0.1554E-03  | 0.5999E-04  | -0.2359E 02 | 0.7974E 01  | -0.1289E 01 |
|     |   |             |             |             |             |             |             |
| 111 | 1 | 0.4053E-04  | -0.2000E-04 | 0.3517E-04  | 0.8305E 01  | -0.1740E 02 | 0.1934E 02  |
| 111 | 2 | 0.7044E-04  | -0.2468E-04 | 0.2614E-04  | -0.4592E 01 | -0.1900E 02 | 0.1062E 02  |
|     |   |             |             |             |             |             |             |
| 112 | 1 | 0.1210E-04  | 0.7845E-04  | 0.5598E-04  | -0.3108E 02 | 0.1818E 02  | -0.1038E 01 |
| 112 | 2 | 0.2687E-04  | 0.9910E-04  | 0.8632E-04  | -0.2418E 02 | 0.5193E 01  | -0.1111E 01 |
|     |   |             |             |             |             |             |             |
| 113 | 1 | -0.1921E-04 | 0.7550E-04  | -0.2708E-04 | -0.8089E 01 | -0.3363E 01 | -0.2406E 02 |
| 113 | 2 | -0.3224E-04 | 0.1192E-03  | -0.2642E-04 | -0.1311E 02 | -0.1032E 02 | -0.1350E 02 |
|     |   |             |             |             |             |             |             |
| 114 | 1 | -0.1765E-04 | 0.1106E-03  | -0.8003E-05 | -0.1635E 02 | -0.5458E 01 | -0.2285E 02 |
| 114 | 2 | -0.3252E-04 | 0.1613E-03  | -0.1828E-06 | -0.1012E 02 | -0.8063E 01 | -0.1392E 02 |
|     |   |             |             |             |             |             |             |
| 115 | 1 | 0.3751E-04  | 0.7305E-05  | 0.4351E-04  | -0.3556E 01 | 0.9567E 01  | 0.1789E 02  |
| 115 | 2 | 0.6687E-04  | -0.1296E-05 | 0.5537E-04  | -0.9036E 01 | -0.1060E 01 | 0.9037E 01  |

|     |   |             |             |             |             |             |             |
|-----|---|-------------|-------------|-------------|-------------|-------------|-------------|
| 116 | 1 | 0.2787E-04  | 0.4687E-04  | 0.6032E-04  | -0.2628E 02 | 0.1743E 02  | 0.8419E 01  |
| 116 | 2 | 0.5167E-04  | 0.5470E-04  | 0.9272E-04  | -0.1715E 02 | 0.8819E 01  | 0.2509E 01  |
| 117 | 1 | 0.4987E-04  | -0.1587E-04 | -0.4208E-04 | 0.1961E 02  | -0.2369E 02 | 0.5282E 01  |
| 117 | 2 | 0.6486E-04  | -0.1645E-04 | -0.7390E-04 | 0.4613E 01  | -0.1690E 02 | 0.3277E 01  |
| 118 | 1 | 0.2601E-04  | 0.2810E-04  | 0.6208E-04  | -0.1585E 02 | 0.2180E 02  | 0.1129E 02  |
| 118 | 2 | 0.4940E-04  | 0.3070E-04  | 0.9661E-04  | -0.6645E 01 | 0.1748E 02  | 0.3158E 01  |
| 119 | 1 | -0.4829E-04 | 0.8162E-04  | 0.2897E-04  | -0.1661E 02 | 0.1793E 02  | -0.1045E 02 |
| 119 | 2 | -0.7424E-04 | 0.1187E-03  | 0.5670E-04  | -0.1101E 02 | 0.5340E 01  | -0.3902E 01 |
| 120 | 1 | 0.3748E-04  | 0.2134E-04  | -0.5732E-04 | 0.3005E 02  | -0.3532E 01 | -0.7055E 01 |
| 120 | 2 | 0.5153E-04  | 0.4520E-04  | -0.9093E-04 | 0.3451E 02  | 0.1393E 02  | 0.3901E 01  |
| 121 | 1 | 0.4761E-04  | -0.5934E-04 | 0.1808E-04  | 0.1673E 02  | 0.7597E 01  | 0.1778E 02  |
| 121 | 2 | 0.8126E-04  | -0.1111E-03 | 0.1414E-04  | 0.2504E 02  | 0.4159E 01  | 0.7416E 01  |
| 122 | 1 | 0.2397E-04  | -0.1668E-03 | 0.1350E-03  | 0.2190E 02  | 0.3336E 02  | 0.1808E 02  |
| 122 | 2 | 0.4649E-04  | -0.3272E-03 | 0.2378E-03  | 0.4332E 02  | 0.4457E 02  | 0.1221E 02  |
| 123 | 1 | -0.2806E-04 | -0.1368E-04 | -0.1069E-03 | 0.2712E 02  | 0.1460E 02  | -0.1005E 02 |
| 123 | 2 | -0.6862E-04 | -0.5642E-05 | -0.1865E-03 | 0.2455E 02  | 0.3537E 02  | -0.1118E 02 |
| 124 | 1 | 0.5405E-04  | -0.4563E-03 | 0.4848E-04  | 0.3599E 02  | 0.5532E 02  | 0.6543E 01  |
| 124 | 2 | 0.1309E-03  | -0.8946E-03 | 0.8247E-04  | 0.7073E 02  | 0.6903E 02  | -0.6309E 00 |

|     |   |             |             |             |             |             |             |
|-----|---|-------------|-------------|-------------|-------------|-------------|-------------|
| 125 | 1 | -0.4708E-04 | 0.4617E-04  | 0.2266E-04  | 0.2589E 02  | 0.2292E 02  | -0.4461E 01 |
| 125 | 2 | -0.8729E-04 | 0.9959E-04  | 0.6707E-04  | 0.3046E 02  | 0.4100E 02  | 0.4756E 01  |
| 126 | 1 | -0.3097E-05 | -0.8042E-04 | -0.6127E-04 | 0.2529E 02  | 0.7410E 01  | 0.4438E 01  |
| 126 | 2 | -0.1955E-04 | -0.1406E-03 | -0.1321E-03 | 0.2845E 02  | 0.9782E 01  | -0.3936E 01 |
| 127 | 1 | -0.4011E-04 | 0.5001E-04  | 0.2933E-04  | 0.2050E 02  | 0.1261E 02  | -0.3073E 01 |
| 127 | 2 | -0.7098E-04 | 0.1300E-03  | 0.8572E-04  | 0.1719E 02  | -0.1375E 01 | 0.8960E 01  |
| 128 | 1 | 0.1689E-04  | 0.3972E-05  | -0.2649E-04 | 0.7368E 01  | 0.8844E 01  | 0.6862E 00  |
| 128 | 2 | 0.2850E-04  | 0.5725E-04  | -0.7045E-04 | -0.1883E 02 | 0.4472E 01  | -0.1644E 01 |
| 129 | 1 | 0.6622E-05  | 0.4278E-04  | -0.1867E-04 | 0.2245E 01  | 0.2656E 01  | -0.1341E 01 |
| 129 | 2 | -0.7197E-05 | 0.5296E-04  | 0.1004E-04  | -0.1243E 02 | 0.7201E 01  | 0.8647E 01  |
| 130 | 1 | -0.1157E-04 | 0.1519E-04  | -0.4463E-05 | -0.6093E 01 | 0.1211E 02  | -0.8550E 01 |
| 130 | 2 | -0.1002E-04 | 0.3368E-04  | 0.4067E-05  | -0.1176E 02 | -0.8030E 01 | -0.6173E 00 |
| 131 | 1 | -0.6889E-05 | 0.1944E-04  | 0.2269E-04  | -0.9578E 01 | 0.1264E 02  | 0.2979E 00  |
| 131 | 2 | 0.1317E-05  | 0.2180E-04  | 0.4170E-04  | -0.1771E 02 | -0.5953E 01 | 0.8588E-01  |
| 132 | 1 | 0.1734E-04  | -0.2150E-04 | 0.3053E-04  | -0.8938E-01 | 0.9958E 01  | 0.6495E 01  |
| 132 | 2 | 0.3881E-04  | -0.4936E-04 | 0.4521E-04  | 0.8146E 01  | -0.7264E 01 | 0.1080E 01  |
| 133 | 1 | 0.2878E-04  | -0.3115E-04 | -0.1415E-04 | 0.7976E 01  | 0.6797E 01  | 0.6354E 00  |
| 133 | 2 | 0.5201E-04  | -0.4848E-04 | -0.4320E-04 | 0.8408E 01  | -0.7775E 01 | -0.6055E 00 |

|     |   |             |             |             |             |             |             |
|-----|---|-------------|-------------|-------------|-------------|-------------|-------------|
| 134 | 1 | 0.1025E-04  | 0.9540E-06  | -0.2043E-04 | 0.4778E 01  | 0.4653E 01  | -0.1411E 01 |
| 134 | 2 | 0.1237E-05  | 0.1842E-04  | -0.3758E-04 | -0.1811E 02 | -0.7117E 01 | 0.4625E-01  |
| 135 | 1 | 0.2835E-05  | 0.2245E-04  | -0.1024E-04 | 0.1441E 01  | 0.3490E 01  | -0.1855E 01 |
| 135 | 2 | -0.4442E-05 | 0.3067E-04  | -0.3177E-05 | -0.1206E 02 | -0.9211E 01 | -0.4795E-01 |
| 136 | 1 | -0.1030E-05 | 0.7982E-05  | 0.2452E-05  | -0.1914E 01 | 0.1012E 00  | -0.5519E 01 |
| 136 | 2 | 0.5807E-06  | 0.1578E-04  | 0.7426E-05  | -0.1162E 02 | 0.7703E 01  | 0.7422E 01  |
| 137 | 1 | 0.1031E-06  | 0.3516E-05  | 0.9581E-05  | -0.2562E 01 | 0.2062E 01  | -0.5627E 00 |
| 137 | 2 | 0.6493E-05  | 0.2996E-05  | 0.1889E-04  | -0.1848E 02 | 0.4716E 01  | -0.7406E 00 |
| 138 | 1 | 0.1098E-04  | -0.8179E-05 | 0.9964E-05  | -0.1669E 01 | 0.2405E 00  | 0.2913E 01  |
| 138 | 2 | 0.2417E-04  | -0.1757E-04 | 0.1369E-04  | 0.1417E 02  | 0.1440E 02  | -0.1213E 02 |
| 139 | 1 | 0.1481E-04  | -0.1178E-04 | -0.4317E-05 | 0.1465E 01  | -0.1064E 01 | -0.5253E 00 |
| 139 | 2 | 0.2376E-04  | -0.1818E-04 | -0.1323E-04 | 0.1480E 02  | 0.1454E 02  | 0.1231E 02  |
| 140 | 1 | 0.8062E-05  | -0.3485E-06 | -0.1049E-04 | 0.2731E 01  | -0.4145E 00 | -0.1377E 01 |
| 140 | 2 | 0.7887E-05  | 0.3325E-05  | -0.1743E-04 | -0.1896E 02 | 0.4394E 01  | 0.7292E 00  |
| 141 | 1 | 0.1753E-05  | 0.9836E-05  | -0.5563E-05 | 0.1080E 01  | 0.2155E 00  | -0.1362E 01 |
| 141 | 2 | 0.3370E-07  | 0.1474E-04  | -0.6018E-05 | -0.1265E 02 | 0.7318E 01  | -0.8725E 01 |
| 142 | 1 | 0.4868E-06  | 0.3246E-05  | 0.2127E-05  | -0.3822E 00 | -0.4695E 01 | -0.3346E 00 |
| 142 | 2 | 0.1569E-05  | 0.5833E-05  | 0.4306E-05  | -0.1140E 02 | 0.2993E 01  | -0.8582E 01 |

|     |   |            |             |             |             |             |             |
|-----|---|------------|-------------|-------------|-------------|-------------|-------------|
| 143 | 1 | 0.2696E-05 | 0.7163E-06  | 0.4301E-05  | -0.4393E 00 | -0.2865E 01 | -0.3727E 00 |
| 143 | 2 | 0.6568E-05 | 0.7776E-06  | 0.7966E-05  | -0.1857E 02 | -0.4662E-01 | 0.1232E 01  |
|     |   |            |             |             |             |             |             |
| 144 | 1 | 0.6157E-05 | -0.3212E-05 | 0.3297E-05  | -0.1864E 01 | -0.3642E 01 | -0.5684E 00 |
| 144 | 2 | 0.1221E-04 | -0.6100E-05 | 0.4821E-05  | 0.1271E 02  | 0.9776E 01  | 0.1301E 02  |
|     |   |            |             |             |             |             |             |
| 145 | 1 | 0.7579E-05 | -0.4077E-05 | -0.1824E-05 | -0.7776E 00 | -0.3792E 01 | 0.1251E 01  |
| 145 | 2 | 0.1250E-04 | -0.6487E-05 | -0.4412E-05 | 0.1319E 02  | 0.1002E 02  | -0.1291E 02 |
|     |   |            |             |             |             |             |             |
| 146 | 1 | 0.4543E-05 | 0.7882E-07  | -0.4668E-05 | 0.1365E 01  | -0.2560E 01 | -0.3538E 00 |
| 146 | 2 | 0.6127E-05 | 0.7310E-06  | -0.7694E-05 | -0.1922E 02 | -0.1075E 00 | -0.1353E 01 |
|     |   |            |             |             |             |             |             |
| 147 | 1 | 0.1100E-05 | 0.3531E-05  | -0.2460E-05 | 0.7006E 00  | -0.1784E 01 | -0.1123E 01 |
| 147 | 2 | 0.1220E-05 | 0.5630E-05  | -0.3557E-05 | -0.1252E 02 | 0.2901E 01  | 0.9665E 01  |
|     |   |            |             |             |             |             |             |
| 148 | 1 | 0.5338E-06 | 0.9361E-06  | 0.8862E-06  | -0.1295E 00 | -0.2525E 01 | 0.3335E 00  |
| 148 | 2 | 0.1064E-05 | 0.1545E-05  | 0.1516E-05  | -0.1078E 02 | -0.2177E 02 | -0.1018E 01 |
|     |   |            |             |             |             |             |             |
| 149 | 1 | 0.1839E-05 | 0.2621E-06  | 0.1723E-05  | -0.2554E 00 | -0.2137E 01 | 0.1358E-01  |
| 149 | 2 | 0.3565E-05 | 0.4795E-06  | 0.2999E-05  | -0.1737E 02 | -0.2010E 02 | 0.5807E 00  |
|     |   |            |             |             |             |             |             |
| 150 | 1 | 0.3303E-05 | -0.1003E-05 | 0.1133E-05  | -0.8759E 00 | -0.2007E 01 | -0.6006E-01 |
| 150 | 2 | 0.6021E-05 | -0.1721E-05 | 0.1825E-05  | 0.3383E 01  | -0.2170E 02 | 0.1350E 01  |
|     |   |            |             |             |             |             |             |
| 151 | 1 | 0.3639E-05 | -0.1180E-05 | -0.8252E-06 | -0.4367E 00 | -0.1920E 01 | 0.5106E 00  |
| 151 | 2 | 0.6120E-05 | -0.1933E-05 | -0.1544E-05 | 0.3168E 01  | -0.2193E 02 | -0.1092E 01 |

|     |   |            |             |             |             |             |             |
|-----|---|------------|-------------|-------------|-------------|-------------|-------------|
| 152 | 1 | 0.2226E-05 | 0.2178E-06  | -0.1790E-05 | 0.5080E 00  | -0.1735E 01 | 0.1544E 00  |
| 152 | 2 | 0.3491E-05 | 0.3797E-06  | -0.2944E-05 | -0.1845E 02 | -0.2037E 02 | -0.6724E 00 |
| 153 | 1 | 0.5522E-06 | 0.9123E-06  | -0.7901E-06 | 0.3215E 00  | -0.1413E 01 | -0.4778E 00 |
| 153 | 2 | 0.8236E-06 | 0.1498E-05  | -0.1287E-05 | -0.1149E 02 | -0.2203E 02 | 0.9813E 00  |
| 154 | 1 | 0.2191E-06 | 0.1342E-06  | 0.1137E-06  | -0.2623E 00 | -0.8073E 00 | 0.6930E 00  |
| 154 | 2 | 0.3400E-06 | 0.2027E-06  | 0.1300E-06  | -0.1166E 02 | -0.1283E 02 | 0.7735E 01  |
| 155 | 1 | 0.8324E-06 | 0.8035E-07  | 0.4396E-06  | -0.5857E 00 | -0.7199E 00 | 0.2102E 00  |
| 155 | 2 | 0.1333E-05 | 0.1630E-06  | 0.7152E-06  | -0.1972E 02 | -0.1218E 02 | -0.1325E 01 |
| 156 | 1 | 0.1628E-05 | -0.1642E-06 | 0.3158E-06  | -0.1908E 00 | -0.6648E 00 | -0.1512E 00 |
| 156 | 2 | 0.2690E-05 | -0.2574E-06 | 0.5526E-06  | 0.7039E 01  | -0.1343E 02 | -0.1154E 02 |
| 157 | 1 | 0.1703E-05 | -0.1854E-06 | -0.2816E-06 | 0.1025E 00  | -0.6266E 00 | 0.6093E 00  |
| 157 | 2 | 0.2813E-05 | -0.3090E-06 | -0.4336E-06 | 0.7119E 01  | -0.1338E 02 | 0.1129E 02  |
| 158 | 1 | 0.8671E-06 | 0.8720E-07  | -0.4662E-06 | 0.8185E-02  | -0.5830E 00 | 0.2377E 00  |
| 158 | 2 | 0.1435E-05 | 0.1310E-06  | -0.7489E-06 | -0.2046E 02 | -0.1208E 02 | 0.1568E 01  |
| 159 | 1 | 0.1518E-06 | 0.1086E-06  | -0.3982E-07 | 0.3306E-01  | -0.5152E 00 | -0.2728E 00 |
| 159 | 2 | 0.2578E-06 | 0.1826E-06  | -0.7973E-07 | -0.1273E 02 | -0.1304E 02 | -0.8612E 01 |

## B O U N D A R Y   E L E M E N T   F O R C E S / M O M E N T S

| ELEMENT<br>NUMBER | LOAD<br>CASE | FORCE        | MOMENT      |
|-------------------|--------------|--------------|-------------|
| 1                 | 1            | -0.14945E 02 | 0.00000E 00 |
| 1                 | 2            | 0.54164E 02  | 0.00000E 00 |
| 2                 | 1            | -0.18301E 02 | 0.00000E 00 |
| 2                 | 2            | 0.13124E 03  | 0.00000E 00 |
| 3                 | 1            | -0.34165E 01 | 0.00000E 00 |
| 3                 | 2            | 0.13297E 03  | 0.00000E 00 |
| 4                 | 1            | 0.11075E 01  | 0.00000E 00 |
| 4                 | 2            | 0.54912E 02  | 0.00000E 00 |
| 5                 | 1            | 0.12351E 03  | 0.00000E 00 |
| 5                 | 2            | 0.14956E 03  | 0.00000E 00 |
| 6                 | 1            | 0.21854E 03  | 0.00000E 00 |
| 6                 | 2            | 0.42048E 03  | 0.00000E 00 |
| 7                 | 1            | -0.33008E 02 | 0.00000E 00 |
| 7                 | 2            | 0.40925E 03  | 0.00000E 00 |

|    |   |              |             |
|----|---|--------------|-------------|
| 8  | 1 | 0.49713F 01  | 0.00000E 00 |
| 8  | 2 | 0.15051E 03  | 0.00000E 00 |
| 9  | 1 | 0.91760E 02  | 0.00000E 00 |
| 9  | 2 | 0.50840E 02  | 0.00000F 00 |
| 10 | 1 | 0.12902E 03  | 0.00000E 00 |
| 10 | 2 | 0.12505E 03  | 0.00000E 00 |
| 11 | 1 | -0.19638E 02 | 0.00000F 00 |
| 11 | 2 | 0.12529E 03  | 0.00000E 00 |
| 12 | 1 | 0.26393E 01  | 0.00000E 00 |
| 12 | 2 | 0.51832E 02  | 0.00000E 00 |
| 13 | 1 | 0.33982E-06  | 0.00000E 00 |
| 13 | 2 | 0.52268E-06  | 0.00000E 00 |
| 14 | 1 | -0.84819E-04 | 0.00000E 00 |
| 14 | 2 | -0.32203E-03 | 0.00000E 00 |
| 15 | 1 | -0.22964E-03 | 0.00000E 00 |
| 15 | 2 | -0.32414E-03 | 0.00000E 00 |



## S T A T I C   S O L U T I O N   T I M E   L O G

EQUATION SOLUTION     =   827.50  
DISPLACEMENT OUTPUT =   10.27  
STRESS RECOVERY       =   23.13

## O V E R A L L   T I M E   L O G

NODAL POINT INPUT         =     8.75  
ELEMENT STIFFNESS FORMATION = 208.85  
NODAL LOAD INPUT           =     1.24  
TOTAL STIFFNESS FORMATION = 373.40  
STATIC ANALYSIS            = 861.10  
EIGENVALUE EXTRACTION     =     0.00  
FORCED RESPONSE ANALYSIS   =     0.00  
RESPONSE SPECTRUM ANALYSIS =     0.00  
STEP-BY-STEP INTEGRATION   =     0.00  
  
TOTAL SOLUTION TIME         = 1453.34